CATALOG M-11

MECHANICAL RUBBER GOODS

MANUFACTURED BY
GUTTA PERCHA & RUBBER, LIMITED

HEAD OFFICES
47 YONGE ST., TORONTO, ONTARIO, CANADA

Revised List Prices

Adopted May 9th, 1910 — Superseding all previous lists

Rubber Belting, Steam Hose, Air Drill, Air Brake, Brewers', Oil, Chemical Engine, Vinegar and Sand Blast Hose.

Also for

Cotton, Rubber-Lined Mill Fire Hose.

Manufactured by

The Gutta Percha & Rubber Mfg. Co.

of Toronto, Limited

S. T. WARREN, PRESIDENT — TRUMBULL WARREN, TREASURER
C. N. CANDEE, SEC'Y AND GEN'L MANAGER

Head Offices and Factories:
TORONTO, ONTARIO, CANADA

Sales Branches at
MONTREAL, HALIFAX, WINNIPEG, CALGARY
VANCOUVER, SYDNEY and MELBOURNE, Australia

REVISED RUBBER BELTING PRICE LIST

Adopted May 9th, 1910

For all grades of Drive Belts, Elevator Belts, Conveyor Belts and Emery Belts, whether Plain or Stitched

Inch	2-ply Per Ft.	3-ply Per Ft.	4-ply Per Ft.	5-ply Per Ft.	6-ply Per Ft.	7-ply Per Ft.	8-ply Per Ft.	9-ply Per Ft.	10-ply Per Ft.
1	$ 09	$ 11	$ 13						
1¼	11	13	16						
1½	13	15	19	$ 23					
1¾	15	17	22	27					
2	18	20	25	31	$ 37				
2½	22	25	31	38	46				
3	26	30	37	45	55				
3½	30	35	43	53	65				
4	34	40	50	61	75	$ 86			
4½	38	45	55	69	84	96			
5	42	50	61	76	91	1 06			
6	50	60	72	89	1 08	1 25	$ 1 44		
7	59	70	84	1 04	1 25	1 46	1 68		
8	67	80	96	1 19	1 44	1 68	1 92		
9	76	90	1 07	1 34	1 60	1 88	2 16		
10	84	1 00	1 20	1 49	1 77	2 09	2 40	$ 2 70	
11	92	1 10	1 32	1 63	1 96	2 29	2 62	2 97	
12	1 00	1 20	1 43	1 78	2 15	2 50	2 85	3 22	
13	1 10	1 30	1 56	1 95	2 34	2 73	3 12	3 51	
14	1 19	1 40	1 69	2 11	2 54	2 96	3 39	3 80	$ 4 23
15	1 28	1 52	1 83	2 28	2 74	3 19	3 65	4 12	4 58
16	1 37	1 65	1 96	2 44	2 94	3 42	3 92	4 41	4 90
18	1 55	1 87	2 22	2 77	3 33	3 88	4 44	5 00	5 55
20	1 74	2 09	2 49	3 10	3 73	4 35	4 97	5 60	6 23
22	1 94	2 33	2 77	3 47	4 16	4 85	5 54	6 23	6 93
24	2 16	2 60	3 08	3 85	4 62	5 39	6 16	6 93	7 70
26	2 38	2 86	3 39	4 23	5 08	5 93	6 78	7 63	8 48
28	2 60	3 12	3 70	4 62	5 54	6 47	7 39	8 33	9 25
30	2 82	3 39	4 00	5 00	6 00	7 00	8 00	9 00	10 00
32	3 04	3 65	4 31	5 39	6 47	7 55	8 62	9 70	10 78
34	3 26	3 92	4 62	5 78	6 93	8 09	9 24	10 40	11 55
36	3 48	4 18	4 93	6 16	7 39	8 62	9 86	11 10	12 33
38	3 70	4 44	5 24	6 55	7 85	9 16	10 47	11 79	13 10
40	3 92	4 71	5 55	6 93	8 32	9 70	11 09	12 49	13 88
42	4 14	4 97	5 85	7 32	8 78	10 24	11 70	13 16	14 63
44	4 36	5 24	6 16	7 70	9 24	10 78	12 32	13 86	15 40
46	4 58	5 50	6 47	8 08	9 70	11 32	12 94	14 56	16 18
48	4 80	5 76	6 73	8 47	10 16	11 86	13 55	15 14	16 83
50	5 02	6 03	7 08	8 85	10 63	12 40	14 17	15 93	17 70
52	5 22	6 29	7 39	9 24	11 09	12 94	14 78	16 63	18 48
54	5 46	6 56	7 70	9 63	11 55	13 48	15 40	17 33	19 25
56	5 68	6 82	8 01	10 01	12 01	14 01	16 02	18 02	20 03
58	5 90	7 08	8 32	10 40	12 47	14 55	16 63	18 72	20 80
60	6 12	7 35	8 62	10 78	12 94	15 09	17.25	19 40	21 55

REVISED STEAM HOSE LIST PRICES

Adopted May 9th, 1910

Also for Air Drill, Air Brake, Brewers', Oil, Chemical Engine, Vinegar and Sand Blast Hose

Internal Diameter	3-ply Per Ft.	4-ply Per Ft.	5-ply Per Ft.	6-ply Per Ft.	7-ply Per Ft.	8-ply Per Ft.
¾ Inch	$ 47	$ 56	$ 70	$ 84	$ 98	$1 12
¾ "	57	71	87	1 05	1 23	1 41
1 "	70	87	1 07	1 28	1 50	1 70
1¼ "	85	1 04	1 30	1 56	1 82	2 08
1½ "	1 02	1 25	1 56	1 87	2 18	2 50
1¾ "	1 18	1 45	1 81	2 17	2 53	2 90
2 "	1 34	1 66	2 07	2 49	2 90	3 32
2¼ "	1 50	1 87	2 33	2 80	3 27	3 74
2½ "	1 66	2 08	2 60	3 12	3 64	4 16
3 "	2 00	2 80	3 50	4 20	4 90	5 60

REVISED LIST PRICES

For Cotton, Rubber-Lined Mill Fire Hose

Adopted May 9th, 1910

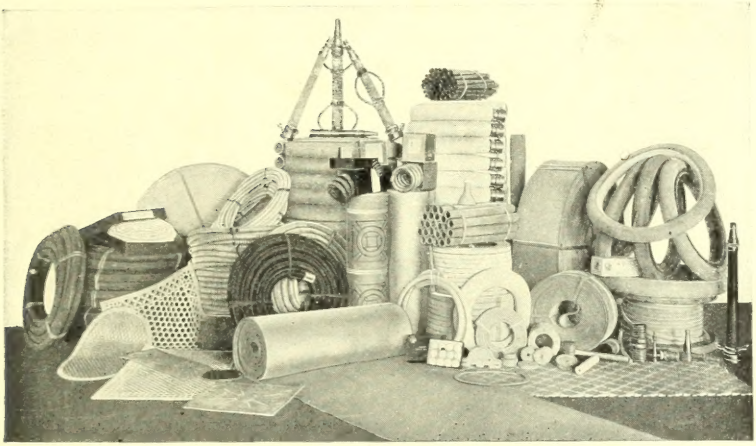
Internal Diameter	Per Foot	Internal Diameter	Per Foot
1 Inch	$ 40	2 Inches	$ 65
1¼ "	45	2½ "	80
1½ "	50		

TRUMBULL WARREN,
Pres. and Treas.

C. N. CANDEE,
V. Pres. and Man'g Director.

R. H. GREENE,
Secretary.

MECHANICAL RUBBER GOODS



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SALES BRANCHES AT

MONTREAL, WINNIPEG, CALGARY, VANCOUVER
SYDNEY AND MELBOURNE, AUSTRALIA

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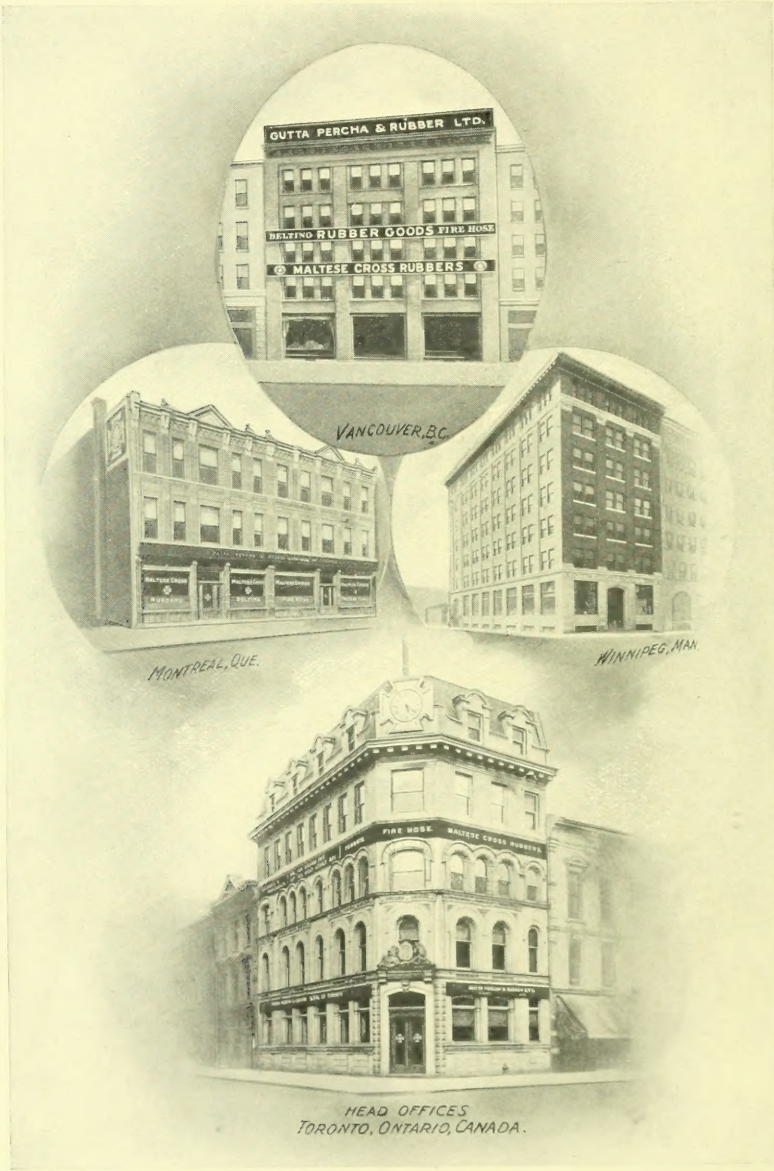

GUTTA PERCHA & RUBBER LTD.
BELTING RUBBER GOODS FIRE HOSE
MALTESE CROSS RUBBERS
VANCOUVER, B.C.
MONTREAL, QUE.
WINNIPEG, MAN.
FIRE HOSE. MALTESE CROSS RUBBERS
HEAD OFFICES
TORONTO, ONTARIO, CANADA.

Our principal lines of manufacture are mechanical rubber goods, rubber boots and shoes, fire hose, carriage and motor tires, interlocking rubber tiling, etc. The variety of our productions is so large and extensive as to render it practically impossible to issue a single catalogue covering all lines.

This price list is intended only to present some of our main lines of mechanical rubber goods. If requiring special goods not mentioned here, kindly write us giving full particulars. We shall be pleased to give all such communications our best attention.

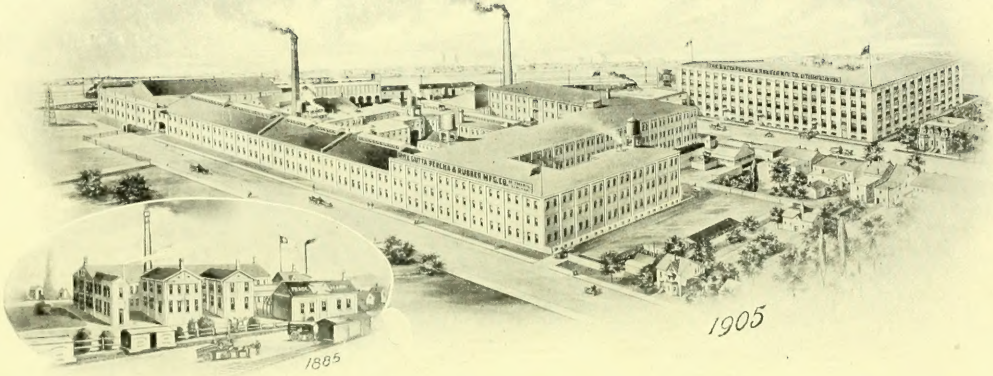
We devote special care to the manufacture for the Canadian market of proprietary articles controlled by residents of other countries, and solicit correspondence with any who have rubber specialties they desire manufactured here.

Our facilities for the successful manufacture of rubber goods are the very best and we offer our productions to the public as second to those of no other makers while in many lines we claim unquestioned superiority. The increasing demand for our goods in foreign markets in open competition with the world is perhaps the best evidence of the merit of our manufactures.

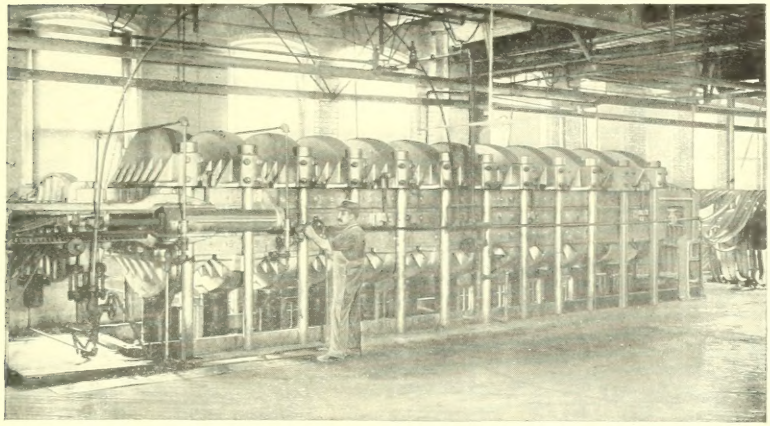
Yours faithfully,

GUTTA PERCHA & RUBBER, LIMITED
Successors to The Gutta Percha & Rubber Mfg. Co. of Toronto, Limited

47 Yonge Street,
TORONTO, CANADA.



TWENTY YEARS' GROWTH
OUR FACTORIES: TORONTO, ONTARIO, CANADA



MANUFACTURE OF RUBBER BELTING

Rubber belting is constructed of a number of plies of heavy, specially woven duck, frictioned or coated with rubber, built one on top of the other and firmly amalgamated in a solid mass by heavy hydraulic pressure under a high degree of heat.

In the above illustration, a reproduction of a photograph made in our works, we show the strongest belt press in America—25% heavier registered pressure on rams than on any press heretofore made. We also illustrate the powerful hydraulic appliance for removing the stretch from the belting before pressure is applied. The mammoth press plates are hollow, and being steam heated, the belting is cured or vulcanized while stretched and under pressure, thus permanently eliminating stretch and insuring the different plies being firmly united.

We have long given this branch of our business most careful study. A steady and rapid increase in our belting trade attests the success our efforts have attained. Our various brands will be found most reliable and we believe the best values the market affords.

SUGGESTIONS

FOR THE

TRANSMISSION OF POWER

BY THE USE OF

RUBBER BELTING

Published by permission of
JAMES BENNETT FORSYTH
General Manager of the Boston Belting Co.

To obtain the full power and longest service from belting, great care should be taken in arranging the shafting and pulleys.

The shafting should be perfectly level and parallel. The pulleys should be in line with each other and turned smooth and balanced.

The pulleys should be as large as circumstances will permit, and the diameter of the pulleys should be increased as the thickness or number of plies of the belt is increased.

The reason for this is that, in order to bend around one-half of the pulley, the outside of the belt must stretch and the inside compress. This causes a forward and backward motion between the upper and lower plies of duck, which rubs off the coating of rubber from the duck near the centre plies, causing the plies to separate when the belt is run over a pulley too small in diameter for the thickness of the belt.

As the stretch and compression is usually the same for a given thickness of belt on a given arc of contact, it follows that the larger the pulley the less the stretch or compression for a foot of belt, and the longer the belt will wear.

EXAMPLE

A 4-ply belt (about ¼ inch thick) envelops one-half the circumference of a 24-inch pulley, the outside has stretched and the inside compressed about ⅜ inch each, making the total distortion about ¾ inch from a normal condition, or about ¼ inch total distortion in a foot of belt.

With the same belt on a 48-inch pulley, the outside will stretch and the inside compress about $\frac{3}{8}$ inch each, making the total distortion about $\frac{3}{4}$ inch, as on the 24-inch pulley; but, owing to the greater circumference of the 48-inch pulley, the distortion per foot has been reduced to about $\frac{1}{2}$ inch, or one-half what it was on the 24-inch pulley. A belt $\frac{1}{2}$ inch thick would be distorted twice as much, and other thicknesses in proportion.

Increasing the diameter of the pulley, the number of revolutions, remaining the same, increases the power; therefore, a light belt on a large pulley is preferable to and more economical than a thick belt on a small pulley.

When more power is wanted, if the diameter of the pulley cannot be increased, the face of the pulley and the belt should be made wider in preference to increasing the thickness of the belt. If made thicker, it might not give as good results as the thinner belt.

THE BEST CONDITIONS ARE:

Large pulleys and high speeds, low tension and reduced width of belt.

4,000 feet per minute is not an excessive speed for belts on proper size pulleys.

Moderately long belts are preferable to short ones.

Running one thin belt on top of another, the inner one a little slack, is sometimes advantageous, giving two flexible instead of one thick, stiff belt.

When the proper weight of duck is used, a 3- or 4-ply rubber belt is equal to a single leather belt, and a 5- or 6-ply rubber is equal to a double leather.

Double belts do not transmit twice the power of single, but will transmit about fifty per cent. more power.

Rubber belts, being very flexible, come quickly to perfect contact with the pulleys and give great adhesion.

Adhesion is increased by carefully covering the surface of the pulleys with suitable lagging.

Vertical belts require extra tension to obtain sufficient friction on the lower pulley.

Excessive tension on a belt is injurious.

Horizontal belts and belts running at an angle of 45 degrees or less should have the lower side the tight or pulling side.

Quarter-turn belts should be avoided if possible. Belts, if run in this way, should be turned end for end often until the stretch is entirely taken out.

For main driving and counter belts the pulleys should have a slight crown of face, not exceeding 1/8 inch to a foot in width; too much crowning is injurious to the belt.

USE LARGE PULLEYS AND AVOID BINDERS

After ascertaining the exact distance around the pulleys, cut the belt 1/8 to 1/4 inch shorter than this length for every foot in the former measurement. The principal object of this is to have the belt tight when on the pulleys.

If a lap splice is required, allowance must be made for a sufficient additional length of belt for making the splice. After the belt has been run a short time and become stretched, take up the slack and stretch, and it will not soon require shortening.

In putting on belting it should be stretched as tightly as possible. This can be done best by the use of clamps secured firmly to each end of the belt and drawn together by clamp rods running parallel with and outside the edges of the belt. (See page 15.) There is no danger of breaking if the belt is of proper length and size for the required work.

After the clamps are adjusted and the belt has been tightened as much as possible, it is an excellent plan to move the pulleys and the belt back and forth so that the clamps will first be close to one pulley and then close to the other. This forward and backward movement should be repeated several times, the clamps meanwhile being drawn tightly after each movement. The object of this is to remove as much slack and stretch as possible from the entire length of the belt before making the splice. If the forward and backward movement is omitted, the slack and stretch will be removed from only about one-half the belt.

It may be assumed that a 4-ply belt with a tension of 60 lbs. per inch of width will be durable and do good service on a 24-inch pulley.

A	5-ply	with	80	lbs.	tension,	on a	30-inch	pulley.
A	6-ply	"	100	"	"	"	36- "	"
A	7-ply	"	120	"	"	"	42- "	"
An	8-ply	"	140	"	"	"	48- "	"

although smaller pulleys can be used. The use of smaller pulleys, however, will be detrimental to the belt.

With the diameter of the pulley and the working tension not less for each thickness of belt than is given in the foregoing table, the 5-ply will deliver 1¼, the 6-ply 1⅔, the 7-ply 2 and the 8-ply 2¼ times as much as the 4-ply would on these diameters of pulleys, running at the same rate in feet per minute.

We give the following rules for horse-power and widths of belting.

TO FIND THE HORSE-POWER OF ANY BELT

RULE 1

Multiply the length of the arc of contact (on smaller pulley) in feet by the width of belt in inches, and this product by the revolutions per minute; divide this product by 325, and the quotient will be the horse-power of a 4-ply belt. Multiply this power by 1.333 for power of 5-ply, by 1.666 for power of 6-ply, by 2 for power of 7-ply and by 2.333 for power of 8-ply belt.

EXAMPLE

A 10-inch 4-ply belt running on one-half the circumference of a 4-foot pulley, making 100 revolutions per minute, will transmit 19.33 + H. P.

6.2832 arc of contact in feet.
10 width of belt in inches.
62.8320
100 revolutions per minute.
325)6283.200
19.33 + H. P. for a 4-ply.

If for a 5-ply, multiply 19.33 × 1.333 = 25.77 H. P.
If for a 6-ply, multiply 19.33 × 1.666 = 32.21 H. P.
If for a 7-ply, multiply 19.33 × 2. = 38.66 H. P.
If for an 8-ply, multiply 19.33 × 2.333 = 45.10 H. P.

RULE 2

Multiply the width of belt in inches by effective tension or pull per inch of width (see table of tensions, page 11), by speed of belt in feet per minute. Divide this by 33,000, and the result will be number of horse-power transmitted.

EXAMPLE

Required number of horse-power transmitted by a belt 20 inches wide, 4-ply (effective tension, 60 lbs. per inch in width), speed of belt 4,400 feet per minute.

20 × 60 × 4,400 = 5,280,000; this divided by 33,000 = 160 horse-power.

This rule is on the basis that the arc of contact of belt in connection with the smaller pulley is about 180 degrees. If the arc of contact is different, then the amount of power transmitted will be of about the following proportion:

240 degrees	150 per cent.
120 "	60 "
90 "	30 "

Intermediate amounts at about proportional rate

TO FIND ARC OF CONTACT OF BELT ON SMALLER PULLEY

Divide the difference between the diameters of the two pulleys by the distance between the centres of shafts (both being in the same denomination, either feet or inches); multiply the quotient by 57, and subtract this product from 180°, and the remainder will be the number of degrees in the arc of contact. Multiply the entire circumference of smaller pulley in feet by degrees of arc of contact as above, divide by 360, and the result will be the length in feet of arc of contact of belt on smaller pulley.

EXAMPLE

To find arc of contact in feet on smaller pulley. Diameter of large pulley, 10 feet; diameter of small pulley, 5 feet; distance between centres, 25 feet.

```
   10
    5
25)  5
   .2
   57
 11.4
```

180 — 11.4 = 168.6 = degrees of arc of contact on smaller pulley. 5 × 3.1416 = 15.708 = circumference of smaller pulley.

15.708 × 168.6 = 2649.3688 ÷ 360 = 7.36 feet = arc of contact of belt on smaller pulley.

TO FIND THE WIDTH OF BELT REQUIRED TO DO A GIVEN AMOUNT OF WORK

Multiply given horse-power by 325 and divide this product by the revolutions per minute; then divide the quotient thus obtained by the length of the arc of contact (on smaller pulley) in feet, and the quotient will be the width in inches of a 4-ply belt. Multiply this width by .75 for width of 5-ply, by .6 for width of 6-ply, by .5 for width of 7-ply, and by .43 for width of 8-ply belt required to do the same amount of work.

EXAMPLE

To transmit 19.33 H. P. by means of a 4-ply belt running on one-half the circumference of a 4-foot pulley, making 100 revolutions per minute, the belt must be 10 inches wide.

19.33 H. P.
325 constant.
Revs. per minute, 100)6282.25
Arc of contact, 6.28)62.8225
10. + inches width.

If for a 5-ply, multiply by .75 = 7.5 inches wide.
If for a 6-ply, multiply by .6 = 6. inches wide.
If for a 7-ply, multiply by .5 = 5. inches wide.
If for an 8-ply, multiply by .43 = 4.3 inches wide.

For diameter of pulleys and tension on different plies, see pages 9 and 12, and table below.

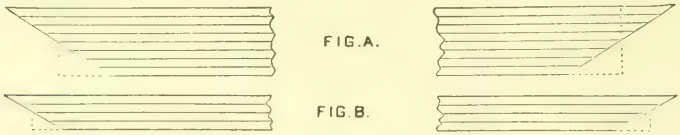
TABLE SHOWING INCREASE OF POWER

Due to the diameter of pulleys and different thicknesses of belt, pulleys making same number of revolutions per minute.

Thickness of Belt	Tension	Diameter of Pulley	Power Delivered
4-ply	60 lbs.	24 in.	1.00
4-ply	60 lbs.	30 in.	1 25
4-ply	60 lbs.	36 in.	1.50
4-ply	60 lbs.	42 in.	1.75
4-ply	60 lbs.	48 in.	2.00
5-ply	80 lbs.	30 in.	1.666
6-ply	100 lbs.	36 in.	2.50
7-ply	120 lbs.	42 in.	3 50
8-ply	140 lbs.	48 in.	4.666

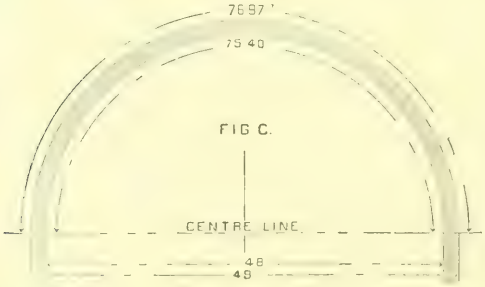
DISTORTION OF BELTING IN PASSING OVER PULLEYS

It is manifest that in passing over a pulley the outside of a belt must stretch and the inside compress. In the engravings shown below (Figs. A and B) the dotted lines represent the normal condition of a piece of belt, while the angular lines show the abnormal or strained position the belt must take when encircling one-half the circumference of a pulley.



As an angle is developed on any diameter of pulley, it is evident that the larger the pulley the less the belt is distorted, per foot of length, from its normal condition.

The following illustration (Fig. C) shows the distortion or strain of fibre in a belt one-half inch thick while encircling one-half of the circumference of a pulley 48 inches in diameter.



Power obtained by increasing diameter of pulley, and the number of plies of the belt, the revolutions of pulley per minute remaining the same.

76.97 inches — Outside Length
75.40 " — Inside Length
1.57 " = distortion.

If a 4-ply belt on a 24-in. pulley will develop 1.00 H. P.
If a 5-ply " " 30- " " " " 1.666 "
If a 6-ply " " 36- " " " " 2.50 "
If a 7-ply " " 42- " " " " 3.50 "
If an 8-ply " " 48- " " " " 4.666 "

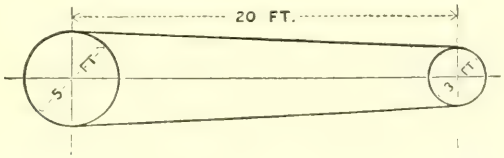
TO FIND THE LENGTH OF A BELT

1st. Add the diameters of the two pulleys together and multiply by 1.57, and to this add twice the distance between the centres of shafts.

2d. Subtract the diameter of the smaller pulley from the diameter of the larger and multiply the remainder by itself; divide this by four times the distance between centres of shafts, and this result, added to that of the first part, will give exact length.

All dimensions must be expressed in the same denomination: that is, either feet or inches.

EXAMPLE



5 diameter of large pulley.
3 " " small "
8 sum of diameter.
1.57
12.56
40. twice distance between centres.
.05
52.61 feet = 52 feet $7\frac{5}{16}$ inches, length of belt.

5 diameter of large pulley.
3 " " small "
2
2
4 ÷ 80 = .05

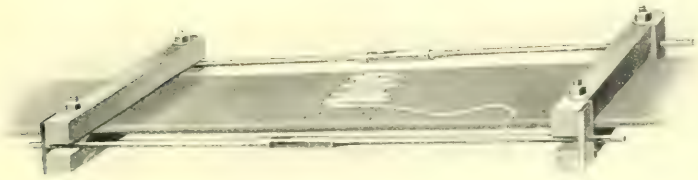
TO FIND LENGTH OF BELT IN A ROLL

Add together the diameters of the roll and the hole in the roll, both being expressed in inches. Multiply this sum by the number of coils in the roll, and then multiply this product by 1.32. The three left-hand figures will represent approximately the number of feet of belting in the roll.

EXAMPLE

A roll of 6-inch 4-ply belt measures 41 inches diameter; hole, 6 inches diameter. Number of coils in the roll, 69. 41 + 6 = 47 × 69 = 3243 × 1.32 = 428.076, or 428 feet.

200
201
202
203



LACING RUBBER BELTING

The ends of the belt should be perfectly squared. Lace holes should be cut with a sharp oval or round punch. In lacing narrow belts, butt the two ends together, making two rows of holes in each (thus obtaining a double hold), being particular that the holes in the second row are not punched immediately behind holes in the front row, but midway between them, as shown on page 14.

For wide belts, in addition, put a thin piece of leather or rubber on the back to strengthen the joint, equal in length to the width of the belt, and sew or rivet it to the belt.

Lacing of belts can be done best by the aid of belt clamps secured firmly to each end of the belt, and drawn together by bolts running parallel with and outside the edges of the belt, as shown in cut.

SPLICING BY CEMENTED LAP

For wide belts a cemented lap splice is very desirable. This may be made by stepping off the ends by removing a portion of the plies in uniform order, so that when finished the lapped ends will match each other, as shown on page 14. Be particularly careful not to cut the plies under the portion to be removed.

Cover both scarfed or stepped surfaces with good rubber cement and allow it to dry. Bring the two ends together carefully, so they will fit each other properly. Roll firmly or hammer together and lace with a fine rawhide lace, punching very small holes to accommodate same.

BELTING DON'TS

Don't forget that there is nothing like rubber if properly used

Don't order your belt too narrow or too light.

Don't cut the lace holes ragged or too large.

Don't cut lace holes too near the ends of the belt.

Don't cut or lace the belt crooked; use a square.

Don't cut one lace hole behind another when cutting two rows.

Don't condemn a belt that breaks because of improper lacing.

Don't expect good wear from belts run on bad pulleys.

Don't use a pulley narrower than the width of the belt.

Don't cut belt too short, or it may tear out at lace holes or break.

Don't allow the edges or face of belts to run against any obstruction.

Don't forget that rubber belts will stand greater heat than any other kind.

Don't forget that rubber belting will transmit more power than any other kind.

Don't forget that grease and oil are injurious to rubber belts and will destroy them.

Don't forget that cheap belts are made on light duck; better grades on heavy duck.

Don't forget that the strength of a belt depends upon the number of plies and weight of duck in it.

Don't forget that the cost of rubber belting is much below that of good leather.

Don't forget that rubber belts will run in damp or wet places (but not in water) where other belts fail.

Don't run the seam side of the belt to the pulley unless pulley is crowned ⅛ inch per foot or more.

Don't allow a belt to run with an air blister in it; cut out the blistered portion *at once* and thus save the rest of the belt.

Don't use a rough plank when shifting belts; shippers with rollers that press upon the face of the belt, instead of on the edge, should be used.

USEFUL INFORMATION ABOUT RUBBER BELTING

As compared with leather, rubber belting is not only much cheaper, but under certain conditions is capable of giving longer and better service. Unlike leather belting, it can be used in all kinds of weather, or in damp places. It is of an even, uniform width and thickness throughout, and on account of its smooth, metallic surface the contact between the pulley and the belting is more perfect, thus obtaining maximum power. It will withstand without injury a considerable amount of heat, and retain its flexibility in the coldest of weather.

CARE AND USE

In selecting belts for special uses, *allow sufficient width,* so that they will run without slipping and still be moderately slack. Tight belts add greatly to the friction on bearings, and waste much power. From 25 to 40 per cent. of the power used in most mills is required to drive the shafting alone. Tight belts are responsible for much of this waste.

Where belts run at an angle of 45 degrees or less, apply power when possible so that the under side of the belt will do the driving. This allows the upper side to sag, increasing the arc of pulley contact, and, consequently, the driving power.

Use pulleys as large as consistent, in order that the stretch on the outside and compression on the inside, caused by bending the belt around pulleys, may be reduced as much as possible. The thicker the belt, the larger the pulley should be on which it is used.

Don't overtax belts nor run them tighter than necessary. In other words, don't send a boy to do a man's work.

THE GUTTA PERCHA & RUBBER
"MONARCH"
SPECIAL QUALITY BELTING
MFG. CO. OF TORONTO, LIMITED
THE GUTTA PERCHA & RUBBER
"RED STRIP"
SUPERIOR QUALITY BELTING
MFG. CO. OF TORONTO, LIMITED
THE GUTTA PERCHA & RUBBER
LION BRAND
MFG. CO. OF TORONTO, LIMITED
"MALTESE CROSS BRAND"
SPECIAL
STITCHED BELTING
THE GUTTA PERCHA & RUBBER MFG. CO.
OF TORONTO, LTD.
THE GUTTA PERCHA & RUBBER
BEAVER BRAND
STITCHED BELTING
MFG CO. OF TORONTO, LIMITED.
THE GUTTA PERCHA & RUBBER
LEADER BRAND
MFG CO. OF TORONTO, LIMITED

RUBBER BELTING

OUR PRINCIPAL BRANDS FOR POWER TRANSMISSION

"Monarch" (TRADE MARK) The strongest, heaviest and highest grade rubber belting we make. Specially designed for heavy work such as main drives in large saw mills, pulp mills, paper mills, etc. Only the heaviest belting ducks and richest rubber stocks are used in this belting.

"Red Strip" (TRADE MARK) This brand corresponds with what is generally sold in the trade as "the best belting." It is made on heavy specially woven belting duck with high-grade friction and cover. Running the entire length of the belt, directly under the lap, is a strip of fine red rubber which prevents any tendency to open at the seam.

"Lion" TRADE MARK Our standard brand. Thoroughly reliable for general service and undoubtedly the best belt on the market at the price. Our "Lion" Thresher Belts have made an exceptional record for serviceability (see page 24).

"Leader" TRADE MARK A lower priced grade of rubber belting. We offer this brand as fully equal to any other at the price, but strongly recommend the use of our better and heavier grades.

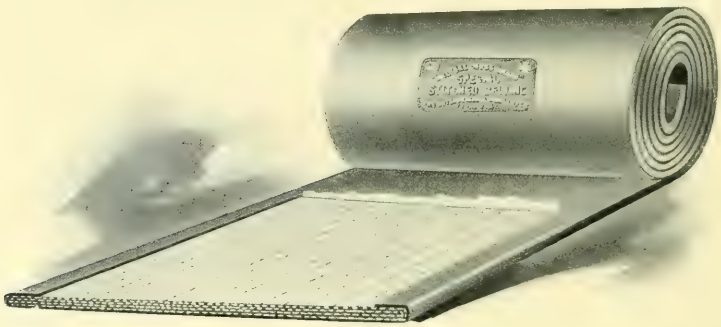
"Maltese Cross" (TRADE MARK) The highest grade, heaviest and strongest stitched rubber belting we make. For fuller description see pages 20 and 21.

"Beaver" TRADE MARK Our standard grade stitched rubber belting. See fuller description on pages 20 and 21.

FOR LIST PRICES SEE PAGE 23

See Telegraph Code pages 115, 116, 117 and 118

STITCHED RUBBER BELTING



In the manufacture of this belting the plies of rubber-coated duck, after being built up to the required thickness, are stitched together with strong cord which has been specially treated, causing it to unite perfectly with the rubber frictions in the belt. These rows of stitching run the entire length of the belt, virtually forming a cross fabric, binding the different layers into a solid single fabric, and in vulcanization are so firmly united with the different plies that should the loops of the stitches wear off, the cord remains in the belt, acting like rivets to hold the plies firmly together. Besides this, the plies are bound together with the same high-grade rubber frictions we employ in our unstitched belting, thus rendering this style of belting superior in strength and durability.

After stitching, the rubber cover is put on and the belt is then thoroughly stretched and cured in our heavy hydraulic presses.

We manufacture Endless Stitched Rubber Belts, and confidently offer this style of belting as the most satisfactory on the market for many purposes, especially for high-speed service.

FOR LIST PRICES SEE PAGE 23

See Telegraph Code pages 115, 116, 117 and 118

Stitched Rubber Belting we supply in two grades, known as our **"Maltese Cross"** and **"Beaver"** brands.

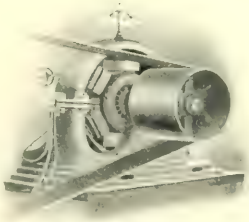
"The best that can be produced" is our aim with respect to all goods bearing our **"Maltese Cross"** brand or trade mark. The heaviest duck and highest grade rubber friction and cover are employed in making this belt.

The **"Beaver"** brand is made in the same general manner as our **"Maltese Cross"** brand, from high-grade materials, and will be found a very satisfactory and serviceable article at moderate cost.

FOR LIST PRICES SEE PAGE 23

DYNAMO AND HIGH SPEED BELTS

Our Special **"Maltese Cross"** Stitched Dynamo Belts will be found splendidly suited for all high-speed service. We guarantee them against separation between the plies, and it is a generally accepted fact that with rubber belts there is much less liability to slipping than with leather.

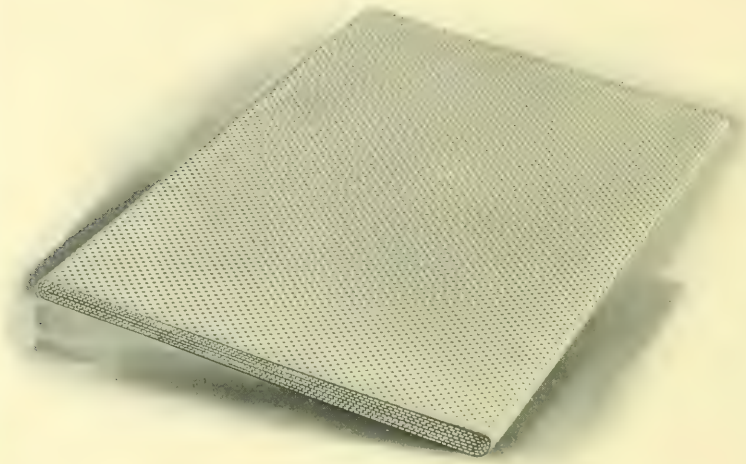


FOR LIST PRICES SEE PAGE 23

See Telegraph Code pages 115, 116, 117 and 118

FRICTION COVER RUBBER BELTING

We supply to order rubber belting without the usual thickness of rubber cover, having the surface finished with a high-grade rubber friction. By some this style of belting is preferred, particularly for certain kinds of work. By this method of manufacture a thinner belt of equal strength is obtained having correspondingly greater flexibility.



"MULTIPLE" BRAND FRICTION COVER BELTING
(TRADE MARK)

A special light weight and flexible belt intended to drive rapid running machinery, as blowers, exhaust fans, wood-working tools, etc. As will be noted from the illustration, it is made of more plies and lighter duck than our regular belts. For this purpose we employ a fine woven duck of special construction, and an exceedingly rich rubber friction, rendering separation of the plies very difficult.

"Multiple" brand belting is specially designed for service where belts run over small pulleys at high speed, and are subjected to a sharp bending strain.

FOR LIST PRICES SEE PAGE 23
See Telegraph Code pages 115, 116, 117 and 118

EMERY AND SAND BELTS

Made endless, of any lengths, widths and number of plies desired. The outer surface has the duck exposed to receive the coating of emery or sand.

FOR LIST PRICES SEE PAGE 23
See Telegraph Code pages 115, 116, 117 and 118

THE GUTTA PERCHA & RUBBER MFG. CO.
OF TORONTO LIMITED

RUBBER BELTING PRICE LIST

For all grades of Drive Belts, Elevator Belts, Conveyor Belts and Emery Belts, whether Plain or Stitched

WIDTH	2 PLY Per Ft.	3 PLY Per Ft.	4 PLY Per Ft.	5 PLY Per Ft.	6 PLY Per Ft.	7 PLY Per Ft.	8 PLY Per Ft.	9 PLY Per Ft.	10 PLY Per Ft.
1 inch	$ .07	$ .09	$ .11						
1¼ "	.09	.11	.13						
1½ "	.11	.13	.15	$ .19					
1¾ "	.13	.15	.17	.21					
2 "	.15	.17	.21	.26	$ .31				
2½ "	.18	.22	.26	.32	.39				
3 "	.22	.26	.31	.38	.46				
3½ "	.26	.30	.37	.46	.55				
4 "	.30	.34	.42	.52	.63	$ .73			
4½ "	.33	.39	.47	.58	.70	.82			
5 "	.36	.43	.52	.65	.78	.91			
6 "	.43	.52	.62	.77	.93	1.08	$1.24		
7 "	.51	.60	.73	.91	1.09	1.27	1.46		
8 "	.59	.70	.84	1.05	1.26	1.47	1.68		
9 "	.67	.80	.95	1.18	1.42	1.66	1.90		
10 "	.75	.90	1.07	1.33	1.60	1.87	2.14	$2.41	
11 "	.83	1.00	1.18	1.47	1.77	2.06	2.36	2.66	
12 "	.91	1.08	1.30	1.62	1.95	2.27	2.60	2.93	
13 "	1.00	1.18	1.42	1.77	2.13	2.48	2.84	3.20	
14 "	1.08	1.28	1.54	1.92	2.31	2.69	3.08	3.47	$3.85
15 "	1.16	1.38	1.66	2.07	2.49	2.90	3.32	3.74	4.15
16 "	1.25	1.50	1.78	2.22	2.67	3.11	3.56	4.01	4.45
18 "	1.41	1.70	2.02	2.52	3.03	3.53	4.04	4.55	5.05
20 "	1.58	1.90	2.26	2.82	3.39	3.95	4.52	5.09	5.62
22 "	1.76	2.12	2.52	3.15	3.78	4.41	5.04	5.67	6.30
24 "	1.96	2.36	2.80	3.50	4.20	4.90	5.60	6.30	7.00
26 "	2.16	2.60	3.08	3.85	4.62	5.39	6.16	6.93	7.70
28 "	2.36	2.84	3.36	4.20	5.04	5.88	6.72	7 56	8.40
30 "	2.56	3.08	3.64	4.55	5.46	6.37	7.28	8.19	9.10
32 "	2.76	3.32	3.92	4.90	5.88	6.86	7.84	8.82	9.80
34 "	2.96	3.56	4.20	5.25	6.30	7.35	8.40	9.45	10.50
36 "	3.16	3.80	4.48	5.60	6.72	7.84	8.96	10.08	11.20
38 "	3.36	4.04	4.76	5.95	7.14	8.33	9.52	10.71	11.90
40 "	3.56	4.28	5.04	6.30	7.56	8.82	10.08	11.34	12.60
42 "	3.76	4.52	5.32	6.65	7.98	9.31	10.64	11.97	13.30
44 "	3.96	4.76	5.60	7.00	8.40	9.80	11.20	12.60	14.00
46 "	4.16	5.00	5.88	7.35	8.82	10.29	11.76	13.23	14.70
48 "	4.36	5.24	6.16	7.70	9.24	10.78	12.32	13.86	15.40
50 "	4.56	5.48	6.44	8.05	9.66	11.27	12.88	14.49	16.10
52 "	4.76	5.72	6.72	8.40	10.08	11.76	13.44	15.12	16.80
54 "	4.96	5.96	7.00	8.75	10.50	12.25	14.00	15.75	17.50
56 "	5.16	6.20	7.28	9.10	10.92	12.74	14.56	16.38	18.20
58 "	5.36	6.44	7.56	9.45	11.34	13.23	15.12	17.01	18.90
60 "	5.56	6.68	7.84	9.80	11.76	13.72	15.68	17.64	19.60
62 "			8.12	10.15	12.18	14.21	16.24	18 27	20.30
64 "			8.40	10.50	12.60	14.70	16.80	18 90	21.00
66 "			8.68	10.85	13.02	15.19	17.36	19 53	21.70
68 "			8.96	11.20	13.44	15.68	17.92	20.16	22.40
70 "			9.24	11.55	13.86	16.17	18.48	20.79	23.10
72 "			9.52	11.90	14.28	16.66	19 04	21.42	23.80

CANCELLED
SEE NEW PRICE LIST
BEING ISSUED SHORTLY

RUBBER THRESHER BELTS

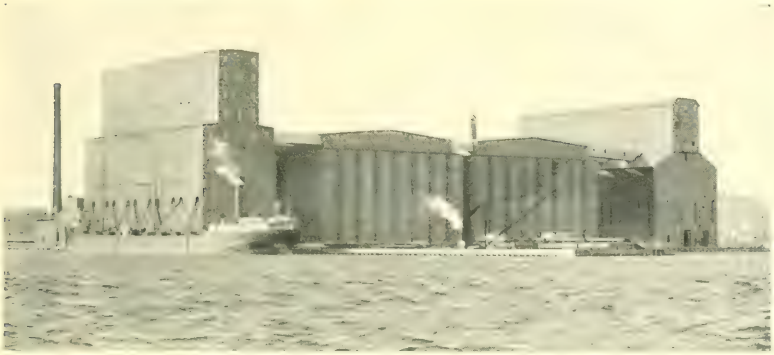
We make a specialty of Endless Rubber Belts for thresher purposes. Conditions in this service are of the most trying character, first, from the fact that the belts are required to run at high speed over very small pulleys, involving great strain; second, on account of the constantly changing conditions of service with exposure to wind and weather; third, because many of these belts are used by unskilled and inexperienced workmen.

While liable to our full share of these troubles, it is very seldom we receive any complaints of our threshing belts, which, we believe, is the best possible proof of the excellence of our goods.

We regularly manufacture two grades, known as our "**Red Strip**" and "**Lion**" brands, and offer them with every confidence as the very best the market affords.

FOR LIST PRICES SEE PAGE 23

See Telegraph Code pages 115, 116, 117 and 118



Elevators and Freighters, Port Arthur, Ontario

GRAIN ELEVATOR BELTING

Our facilities for the manufacture of Grain Elevator Belting are the very best, and we have executed some of the largest contracts ever placed. For the equipment of the mammoth elevator illustrated above we shipped over 3 1/4 miles of belting in varying widths, total weight 80,000 lbs. or 40 tons. This elevator was built by the Barnett & Record Co., of Minneapolis, Minn., for the Canadian Northern Ry. Co. at Port Arthur, Ont. It is the largest in the world—capacity 7,000,000 bushels.

Besides the above *we have also equipped over 600 grain elevators*, both large and small, throughout the country. We are prepared to quote on any specifications, and can positively assure our customers entire satisfaction.

We regularly supply two grades, which we know as our **"Extra Strong"** and **"King"** brands.

TRADE MARK TRADE MARK

FOR LIST PRICES SEE PAGE 23
See Telegraph Code pages 113, 114, 117 and 118

RUBBER CONVEYOR BELTING

For elevating and conveying ore, coal, marl, etc., we make a special belt with reinforced or thickened rubber face, as illustrated below, to withstand the heavy abrasive action and severe usage to which a belt in this service is subjected.

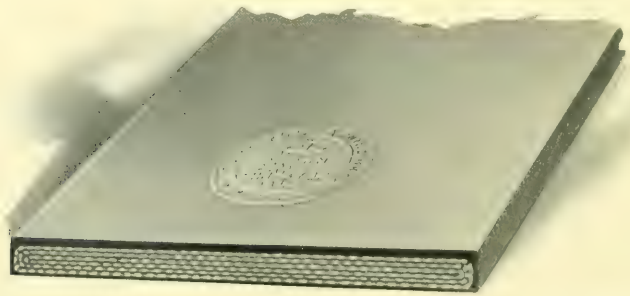
Our "**Crown**" (TRADE MARK) brand Conveyor Belting will be found most reliable and satisfactory. Made in any width and number of plies and usually with either $\frac{1}{16}$ inch or $\frac{1}{8}$ inch rubber face.

We make a specialty of the manufacture of proprietary belts controlled by the manufacturers of conveyor machinery, and solicit correspondence with any who have occasion to install conveyor plants in this country.

"Crown" trade mark used by permission of The Toronto Rubber Co., Limited

FOR LIST PRICES SEE PAGE 23

See Telegraph Code pages 115, 116, 117 and 118



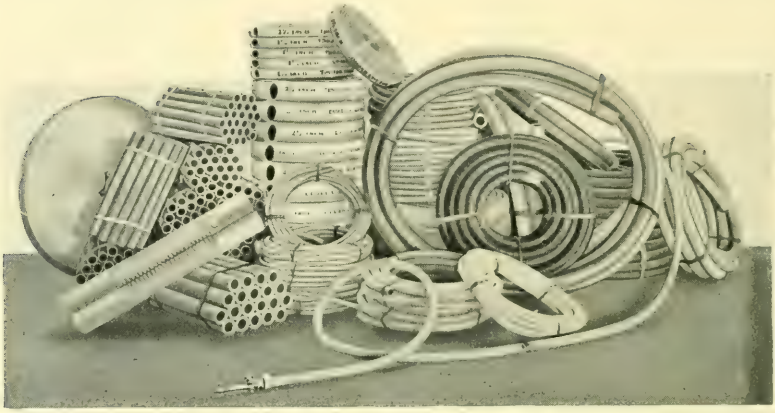
HOSE

FOR EVERY PURPOSE

RUBBER COTTON LINEN

Water
Steam
Brewers'
Air
Vinegar
Oil
Gas
Suction
Vacuum
Sand Blast
Fire
Divers'
Chemical
Car Heating
Air Brake
Rock Drill

SEE FOLLOWING PAGES.



HOSE

The manufacture of Rubber and Cotton Rubber Lined Hose for all purposes constitutes one of the most important departments of our business. Our facilities for manufacture are the very best and our product will be found uniform and reliable.

In the use and care of hose the following facts should be borne in mind:

Avoid kinking as much as possible.

When hose leaks do not wrap a rag around it, but cut out the defective part and join ends together with a mender or coupling.

When not in use, hose should be thoroughly drained and kept in a cool place.

Cotton rubber lined and linen hose should be kept on racks or hangers in a dry, well ventilated place.

Hose should not come in contact with oils or grease of any kind. Much steam and air drill hose is ruined by oil which reaches the tube through the steam or air. For description of our Oil Hose see page 39.

OUR PRINCIPAL WATER HOSE BRANDS

"MALTESE CROSS" (TRADE MARK)

The highest grade and most durable water hose made. Specially designed for severe service. (Not Carbolized Fire Hose.)

"LION" TRADE MARK

The standard grade for general water and garden hose service. Guaranteed to give entire satisfaction, if properly used.

"SUN" TRADE MARK

A very popular garden hose, both with the trade and the consumer. Made with a greater number of plies than are in our other grades.

"AURORA" TRADE MARK

A high grade water hose with red rubber cover

"KINKPROOF" TRADE MARK

Our standard wire bound hose. As its name implies, it will not kink. The wire is applied by a patented process and will not uncoil when cut.

"KING" TRADE MARK

A good average hose at moderate cost. Specially designed for lawn service.

"LEADER" TRADE MARK

A good low-priced hose for lawn service under medium pressures.

"CABLE" TRADE MARK

A cheap, light weight hose for garden service.

"PLANET" TRADE MARK

The cheapest garden hose we make. Supplied only in ½ and ¾ inch sizes.

FOR LIST PRICES SEE PAGE 30

See Tolerance Code pages 114, 115, 117 and 118

RUBBER WATER HOSE LIST PRICES
FOR COLD OR HOT WATER HOSE

Internal Diameter		2-PLY Per Foot	3-PLY Per Foot	4-PLY Per Foot	5-PLY Per Foot	6-PLY Per Foot
½ inch		$ .20	$ .25	$ .30	$ .37	$ .45
¾ "		.25	.30	.37	.46	.55
1 "		.33	.40	.50	.62	.75
1¼ "		.42	.50	.62	.77	.93
1½ "		.50	.60	.75	.93	1.12
1¾ "		.58	.70	.87	1.08	1.30
2 "		.66	.80	1.00	1.25	1.50
2¼ "		.75	.90	1.12	1.40	1.68
2½ "		.83	1.00	1.25	1.56	1.87
2¾ "		.92	1.10	1.37	1.71	2.05
3 "		.99	1.20	1.50	1.87	2.25
3½ "		1.15	1.40	1.75	2.18	2.62
4 "	Tank Hose	1.32	1.60	2.00	2.50	3.00
5 "		1.65	2.00	2.50	3.12	3.75
6 "		1.98	2.40	3.00	3.75	4.50
7 "		2.31	2.80	3.50	4.38	5.25
8 "		2.64	3.20	4.00	5.00	6.00
9 "		2.97	3.60	4.50	5 62	6.75
10 "		3.33	4.00	5.00	6.25	7.50

Intermediate sizes charged at the list price of the next larger size, thus: ⅝-inch will be charged at ¾-inch price, etc.

These list prices apply to all grades of Rubber Water Hose, the discount from these list prices varying according to quality.

The size of any hose is determined by the inside diameter. In ordering specify size, number of plies and grade wanted

See Telegraph Code pages 116, 117 and 118

LIST PRICES FOR
WIRE WINDING WATER HOSE
WITH ROUND WIRE

SIZE OF HOSE	3-PLY Per Foot	4-PLY Per Foot	5-PLY Per Foot	6-PLY Per Foot
½ inch	$ .03	$ .04	$ .05	$ .06
¾ "	.04	.05	.06	.07
1 "	.05	.07	.08	.09
1¼ "	.07	.08	.09	.10
1½ "	.08	.09	.10	.11
1¾ "	.09	.10	.11	.12
2 "	.10	.11	.12	.13
2¼ "	.11	.12	.13	.14
2½ "	.12	.13	.14	.15

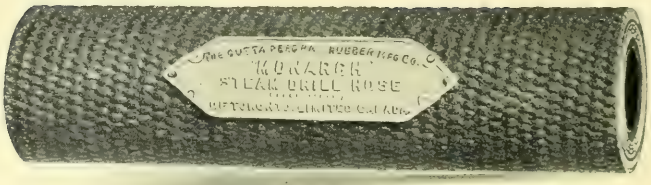
See Telegraph Code page 115

STEAM HOSE

Conducting steam under pressure is one of the hardest services required of rubber hose. The difficulty lies in the fact that steam under heavy pressures generates such intense heat us to quickly attack the cotton fabric in which the strength of the hose lies. It is not difficult to make a hose strong enough when new to withstand a hydraulic pressure many times as great as is ever required in steam service, but the problem in the manufacture of steam hose is to make a rubber tube which will not only withstand as far as possible the hardening effect of the great heat but which will not soften and which will render the greatest protection to the duck.

The rubber stock used in our steam hose tubes has peculiar heat resisting qualities, and we can confidently offer our product in this line as second to none in the world. At the same time it should be remembered that rubber is a vegetable substance and being vulcanized at a temperature of about 250° to 265° F., subjecting it to greater heat than this will have a tendency to overcure and injure it. See table showing temperatures of steam, page 34.

See Telegraph Code pages 115, 116, 117 and 118



WOVEN COTTON COVERED STEAM HOSE

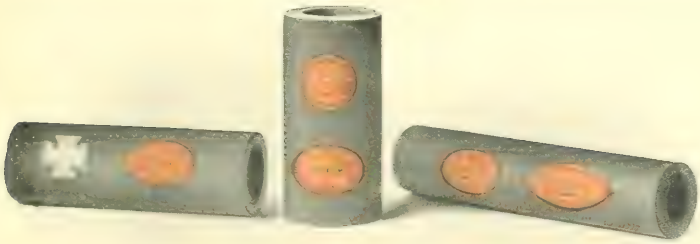
"Monarch" brand steam hose is undoubtedly the strongest, and we believe the most durable steam hose on the market. It is our latest production in this line, and in it we employ the highest grade materials only.

Over the rubber hose which is built up of a number of plies of duck with heavy tube, we weave a heavy and very strong cotton jacket which is afterwards treated to prevent mildew and rot, the outer surface being usually colored. This cover is woven very tightly on the hose itself and will not slip or alter its position. Besides adding very greatly to the strength of the hose this cover protects from outside wear, *and will not unravel if cut.*

While eminently suited for all kinds of steam service, "Monarch" Woven Cotton Covered Steam Hose is especially designed for use on rock drills.

FOR LIST PRICES SEE PAGE 34

See Telegraph Code pages 115, 116, 117 and 118



In addition to the "Monarch" brand we also manufacture three standard grades of steam hose with plain rubber cover as follows:

"**Maltese Cross**" brand is the best plain steam hose made. In it we employ a heavier cotton duck than is generally used. This grade is specially intended for use where heavy steam pressures are encountered.

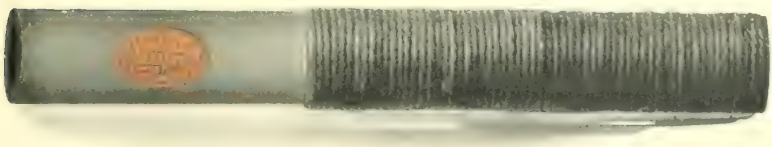
"**Lion**" brand has for years been the standard grade of steam hose on this market and in regular service as well as for rock drill work has established a most satisfactory record. We offer it as second only to the "Monarch" and "Maltese Cross" brands.

"**King**" brand steam hose is made of lighter weight than the "Lion" brand and is intended for medium and light pressure steam service and for conducting hot water.

All above lines of steam hose are supplied with Marline, Ratline or Wire winding if desired. For heavy pressure service — say 75 lbs. or over, we strongly recommend Marline or Ratline winding which will add materially to the strength and life of the hose.

For Marline winding add 10% to net price of hose.
For Ratline winding add 20% to net price of hose.
For Wire winding see list prices page 35.

FOR LIST PRICES SEE PAGE 34



See Tobyrush [illegible] pages 115, 116, 117 and 118

STEAM HOSE LIST PRICES

ALSO FOR AIR DRILL, AIR BRAKE, BREWERS', OIL, CHEMICAL ENGINE, VINEGAR AND SAND BLAST HOSE

Internal Diameter	3 PLY Per Foot	4 PLY Per Foot	5 PLY Per Foot	6 PLY Per Foot	7 PLY Per Foot	8 PLY Per Foot	9 PLY Per Foot	10 PLY Per Foot
½ inch	$ .43	$ .51	$ .63	$ .76	$ .89	$1.02	$1.15	$1.28
¾ "	.51	.67	.83	1.00	1.17	1.34	1.51	1.68
1 "	.67	.83	1.04	1.24	1.45	1.66	1.87	2.08
1¼ "	.85	1.04	1.30	1.56	1.82	2.08	2.34	2.60
1½ "	1.02	1.25	1.56	1.87	2.18	2.50	2.81	3.13
1¾ "	1.18	1.45	1.81	2.17	2.53	2.90	3.26	3.63
2 "	1.34	1.66	2.07	2.49	2.90	3.32	3.74	4.15
2½ "	1.66	2.08	2.60	3.12	3.64	4.16	4.68	5.20
3 "	2.00	2.80	3.50	4.20	4.90	5.60	6.30	7.00

CANCELLED
SEE NEW PRICE LIST
INSIDE FRONT COVER

See Telegraph Code pages 115, 116, 117 and 118

NUMBER OF PLIES OF HOSE RECOMMENDED FOR DIFFERENT STEAM PRESSURES

Steam Pressure	Degrees Fahr. Generat'd	For ½-inch Hose Order	For ¾-inch Hose Order	For 1-inch Hose Order	For 1¼-inch Hose Order	For 1½-inch Hose Order	For 1¾-inch Hose Order	For 2-inch Hose Order
		PLY	PLY	PLY	PLY	PLY	PLY	PLY
20 lbs.	259°	4	4	4	4	4	4	4
25 "	267°	4	4	4	4	4	4	5
30 "	274°	4	4	4	4	4	5	5
35 "	281°	4	4	4	4	5	5	6
40 "	287°	4	4	4	5	5	6	6
45 "	292°	4	4	5	5	6	6	7
50 "	298°	4	5	5	6	6	7	8
55 "	303°	5	5	6	6	7	7	8
60 "	307°	5	6	6	7	7	8	9
65 "	312°	6	6	7	7	8	8	9
70 "	316°	6	7	7	8	8	9	10
75 "	320°	7	7	8	8	9	9	
80 "	324°	7	8	8	9	9		
85 "	328°	8	8	9	9			
90 "	331°	8	9	9				
95 "	334°	9	9					
100 "	338°	9						

While good results are obtained from our Steam Hose where fewer plies are used than those enumerated above, for given service, the proportions suggested are considered the safest practice by best authorities.

WIRE WOUND STEAM HOSE

When desired, we can supply our steam hose wound either with round or flat wire. The wire is attached to the hose by a process of which we have the exclusive control in this country, and it will not unwind when cut.

LIST PRICES FOR WIRE WINDING STEAM HOSE WITH ROUND WIRE

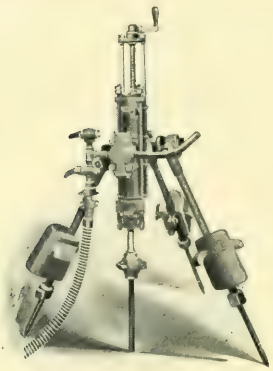
Internal Diameter	3-PLY	4-PLY	5-PLY	6-PLY	7-PLY	8-PLY
½ inch, per ft.	$ .06	$ .07	$ .08	$ .09	$ .10	$ .11
¾ " "	.07	.08	.09	.10	.11	.12
1 " "	.08	.09	.10	.11	.12	.13
1¼ " "	.09	.10	.11	.12	.13	.14
1½ " "	.10	.11	.12	.13	.14	.15
1¾ " "	.11	.12	.13	.14	15	.16
2 " "	.13	.14	.15	.16	.17	.18
2¼ " "	.15	.16	.17	.18	.19	.20
2½ " "	.17	.18	.19	.20	.21	.22

LIST PRICES FOR WIRE WINDING STEAM HOSE WITH FLAT WIRE

Internal Diameter	3-PLY	4-PLY	5-PLY	6-PLY	7-PLY	8-PLY
½ inch, per ft.	$ .09	$ .10	$ .11	$ .12	$ .13	$ .14
¾ " "	.11	.12	.13	.14	.15	.16
1 " "	.13	14	.15	.16	.17	.18
1¼ " "	.15	.16	.17	.18	.19	.20
1½ " "	.18	.19	.20	.21	.22	.23
1¾ " "	.20	.21	.22	.23	.24	.25
2 " "	.23	.24	.25	.26	.27	.28
2¼ " "	.25	.26	.27	.28	.29	.30
2½ " "	.27	.28	.29	.30	.31	.32

The above list prices for both Round and Flat Wire Winding apply also to Air Drill, Brewers', Oil, Sand Blast, Chemical and Gas Hose.

See Telegraph Code pages 115, 116, 117 and 118



AIR DRILL HOSE

The service required of air drill hose is unusually severe. The pressure is not only heavy but intermittent and, as the hose generally works in rough and often wet places, the problem is to produce an article which is not only strong but which will withstand heavy outside wear and friction.

Our **"Monarch"** brand woven cotton covered Air Drill Hose is, we claim, the most durable hose for this service on the market. It is made in the same manner as our "Monarch" Steam Hose described on page 32, and while primarily designed for air drill work it will be found most reliable wherever a hose is required to convey air under heavy pressure.

USE STEAM HOSE LIST PRICES PAGE 34

See Telegraph Code pages 115, 116, 117 and 118

In addition to the "Monarch" brand we also manufacture two standard grades of Air Drill Hose with frictioned canvas cover to resist outside wear. This duck cover is charged as one ply, thus a 5-ply hose would have four plies imbedded with the fifth on the outside over the rubber cover.

"Maltese Cross" brand is made from specially high grade materials and is furnished either with canvas cover or marline, ratline or wire winding.

"Lion" brand has well earned its reputation for reliability and is the standard grade on this market. Supplied with frictioned duck cover or marline, ratline or wire winding.

USE STEAM HOSE LIST PRICES PAGE 34

For Marline Winding, add 10% to net price of hose.
For Ratline Winding, add 20% to net price of hose
For Wire Winding, use list prices page 35.

See Telegraph Code pages 115, 116, 117 and 118

PNEUMATIC TOOL HOSE

The use of pneumatic tools and pneumatic equipment of all kinds has increased so enormously during the past few years that we have, after giving very careful study to the matter of service required, produced a style and grade of hose especially adapted for this purpose. Our pneumatic tool hose is made from high-grade materials and will be found most reliable.

Made in all sizes; the following are most preferred. Each size made with the number of plies found best suited to the work.

LIST PRICES

Sizes	¼-INCH Per Foot	⅜-INCH Per Foot	½-INCH Per Foot	¾-INCH Per Foot
List prices of hose	$ .30	$ .36	$ .45	$ .60
Extra for winding				
With round wire	.03	.04	.05	.07
With flat wire	.08	.09	.11	.13

See Telegraph Code pages 115 and 117

SAND BLAST HOSE

Made with a tube of exceedingly tough, wear-resisting compound specially suited for the service.

USE STEAM HOSE LIST PRICES PAGE 34

See Telegraph Code pages 115, 116 and 117

BREWERS' HOSE

Made specially to meet the requirements of Brewers' use, with heavy, high-grade rubber tube and cover. Supplied in two grades, viz., "Maltese Cross" and "Lion" brands.

USE STEAM HOSE LIST PRICES PAGE 34

See Telegraph Code pages 116, 117 and 118

VINEGAR HOSE

For use in conducting vinegar. We make two grades, "Maltese Cross" and "Lion" brands.

USE STEAM HOSE LIST PRICES PAGE 34

See Telegraph Code pages 115, 116, 117 and 118

Vinegar Suction Hose, see page 42.

OIL HOSE

Made with a tube and cover specially prepared to withstand the action of petroleum and other oils.

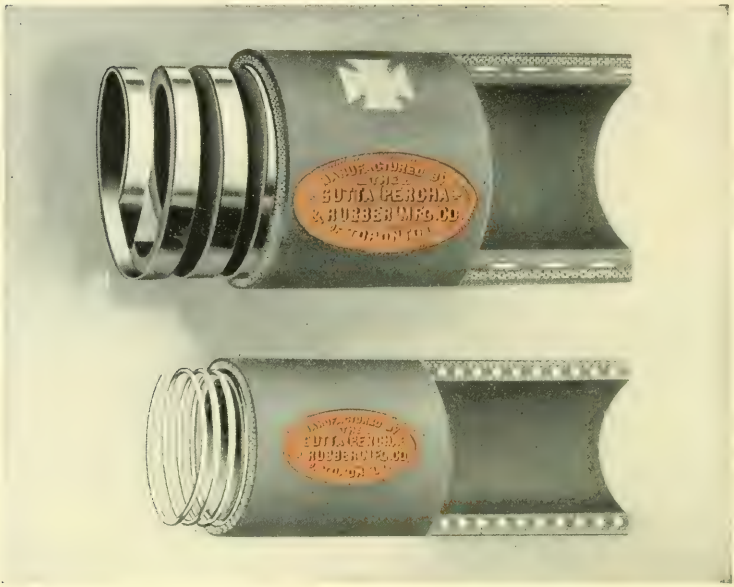
USE STEAM HOSE LIST PRICES PAGE 34

See Telegraph Code pages 115, 116, 117 and 118

Oil Suction Hose, see page 42.

RINK HOSE

In the flooding of skating and curling rinks the service encountered by rubber hose is unusually severe. We recommend the use of steam hose, see list prices, page 34.

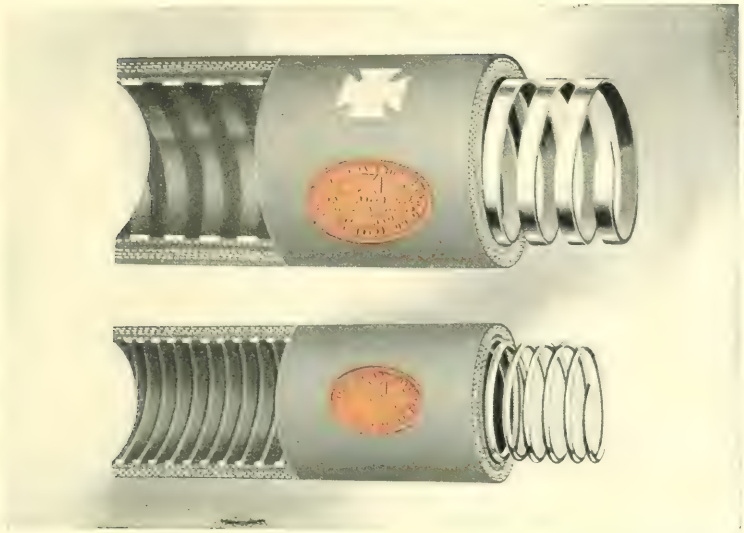


SUCTION HOSE

In the use of Suction Hose as compared with conducting hose the conditions are reversed. In suction hose service the pressure is exerted from the outside and the tendency is to collapse. To offset this external pressure a spiral galvanized iron, steel or brass wire coil is introduced, either imbedded in the rubber as a part of the wall or exposed on the inside of the hose.

Smooth Bore Suction Hose has the wire coil imbedded in the walls, as illustrated above. The wire is thereby protected from the action of the water or other fluids passing through it, and the friction occasioned by the exposed wire in ordinary suction hose is entirely avoided. This style of suction hose is almost invariably used on steam fire engines. For this service we offer our "Maltese Cross" Carbolized Smooth Bore Suction Hose as unequalled in the market.

FOR LIST PRICES SEE PAGE 42
See Telegraph Code page 121



Plain Spiral Suction Hose, illustrated above, is constructed with the wire coil exposed on the inside, instead of being imbedded in the walls of the hose. It is less costly to manufacture than the smooth bore suction hose, therefore is sold on a lower list.

In both Smooth Bore and Plain Spiral Suction Hose we make three grades, viz.: "Maltese Cross," carbolized, "Lion" and "King" brands.

FOR LIST PRICES SEE PAGE 42

Agricultural Suction Hose is a light weight, portable hose, made on spiral wire, specially designed for Threshers' use.

FOR LIST PRICES SEE PAGE 43

Hard Rubber Suction Hose is made with a heavy wall of strong cotton duck and firm rubber stock, which renders it sufficiently stiff to prevent collapsing. Intended principally for Threshers' use. Not recommended larger than two-inch.

FOR LIST PRICES SEE PAGE 43

See Telegraph Cover page 1, 1

SUCTION HOSE

SMOOTH BORE AND PLAIN SPIRAL

"MALTESE CROSS," "LION" AND "KING" BRANDS

LIST PRICES FOR "SMOOTH BORE" SUCTION HOSE

Internal Diameter.		Internal Diameter.	
¾ inch, per foot,	$ .80	6 inch, per foot,	$10.50
1 " " "	1.05	6½ " " "	12.00
1¼ " " "	1.30	7 " " "	13.50
1½ " " "	1.70	7½ " " "	15.00
1¾ " " "	2.15	8 " " "	16.50
2 " " "	2.60	9 " " "	19.50
2½ " " "	3.50	10 " " "	22.50
3 " " "	4.50	12 " " "	27.50
3½ " " "	5.50	15 " " "	35.00
4 " " "	6.50	16 " " "	37.50
4½ " " "	7.50	17 " " "	40.00
5 " " "	8.50	18 " " "	42.50
5½ " " "	9.50	20 " " "	47.50

For list prices of larger sizes up to 24 inch, add $2.50 per inch, internal diameter.

LIST PRICES FOR "PLAIN SPIRAL" SUCTION HOSE

Internal Diameter.		Internal Diameter.	
¾ inch, per foot,	$ .70	4½ inch, per foot,	$6.70
1 " " "	.90	5 " " "	7.60
1¼ " " "	1.15	5½ " " "	8.50
1½ " " "	1.50	6 " " "	9 50
1¾ " " "	1.90	6½ " " "	10.50
2 " " "	2.30	7 " " "	12.00
2¼ " " "	2.70	7½ " " "	13.50
2½ " " "	3.10	8 " " "	15.00
3 " " "	4.00	9 " " "	17.50
3½ " " "	4.90	10 " " "	20.00
4 " " "	5.80	12 " " "	25.00

For list prices of larger sizes up to 24 inch, add $2.50 per inch, internal diameter.

Suction Hose, on Brass Wire, either "Smooth Bore" or "Plain Spiral," sizes ¾ in. to 2½ in.—10% extra.

For wire winding Suction Hose add 12% to net price of hose.

See Telegraph Code page 121

OIL SUCTION HOSE

We make Suction Hose either "Smooth Bore" or "Plain Spiral" for pumping petroleum or other oils, in which we employ a special oil-resisting stock.

USE LIST PRICES ON PAGE 42

See Telegraph Code page 121

Oil Conducting Hose, see page 39.

VINEGAR SUCTION HOSE

Made either "Smooth Bore" or "Plain Spiral" on Hard Brass Wire and specially designed for this service. Use list prices on page 42 plus 10% for brass wire.

See Telegraph Code page 121

Vinegar Conducting Hose, see page 39.

AGRICULTURAL SUCTION HOSE

FOR THRESHERS' USE

This is a light, wire lined suction hose, reasonable in price, at the same time durable. In sizes over 2-inch a higher grade suction hose is recommended.

SEE LIST PRICES BELOW

See Telegraph Code page 121

HARD RUBBER SUCTION HOSE

This hose is intended mainly for Threshers' use and other light suction service. In sizes over 2-inch a wire lined suction hose is recommended.

See Telegraph Code page 121

LIST PRICES

FOR HARD RUBBER AND AGRICULTURAL SUCTION HOSE

Internal Diameter.		Internal Diameter.	
¾ inch, per foot,	$ .65	1¼ inch, per foot,	$1.31
1 " " "	.75	2 " " "	1.50
1¼ " " "	.93	2¼ " " "	1.69
1½ " " "	1.13	2½ " " "	1.88

DIVERS' HOSE

"MALTESE CROSS" BRAND

Made from highest grade materials and intended to float when in service. It is specially designed to prevent kinking and to withstand the action of either salt or fresh water. It is also compounded to prevent imparting a disagreeable odor to the air passing through it to the diver.

LIST PRICES

½ inch, per foot, $ .51 ¾ inch, per foot, $ .67

See Telegraph Code pages 114, 116 and 117

CANCELLED
SEE NEW PRICE LIST
ISSUE FROM COVE

"EUREKA" SOFT SUCTION HOSE

COTTON, RUBBER LINED

Contains no wire. Seamless, circular, solid woven, multiple construction; is flexible, strong and light. Used by the largest fire departments on fire engines of the first class between engine and water hydrant.

LIST PRICES

Internal Diameter.		Internal Diameter.	
2 inch, per ft.	$2.60	6 inch, per ft.	$10.50
2½ " "	3.50	6½ " "	12.00
3 " "	4.50	7 " "	13.50
3½ " "	5.50	7½ " "	15.00
4 " "	6.50	8 " "	16.50
4½ " "	7.50	9 " "	19.50
5 " "	8.50	10 " "	22.50
5½ " "	9.50	12 " "	27.50

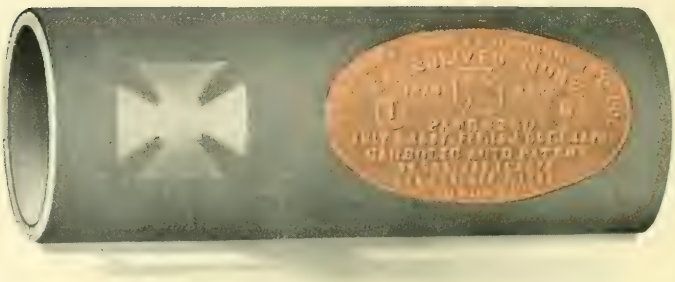
See Telegraph Cone pages 115, 116 and 117

FIRE HOSE

The manufacture of fire hose of all kinds has always been a very important branch of our business. We are undoubtedly much the largest and most successful makers of this class of goods in the Dominion, our various brands of fire hose being in use in all the leading fire departments of the country. We can with fullest confidence refer prospective purchasers to those who have used our goods.

Our line of fire hose embraces over twenty separate and distinct brands adapted to all purposes from mill protection hose to the heaviest and largest hose used in city fire department, water tower and fire boat service. Our special "Fire Hose and Supplies" catalogue, sent on application, describes our various brands fully.

See Telegraph Code pages 115 and 120.



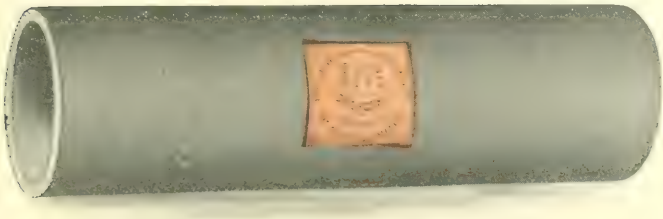
RUBBER FIRE HOSE

The manufacture of Rubber Fire Hose is one of the most difficult in the whole line of rubber working. Few makers have made even a reasonable success of this branch of their business. The essential qualities are durability, strength, lightness, flexibility and freedom from liability to mildew and rot. To combine these qualities is by no means an easy task. The secret lies fully as much in skillful compounding and harmonious combinations as in the use of costly stocks.

For reliability our celebrated "**Maltese Cross**" (TRADE MARK) brand of Rubber Fire Hose, first made upwards of thirty years ago, has earned a well deserved reputation, and still stands unrivalled. In it we employ the highest grade materials obtainable. The cotton duck used is specially woven for this purpose, and before being coated with rubber, is carefully treated by our patent carbolizing process for the prevention of mildew and rot.

"The best Rubber Fire Hose made."

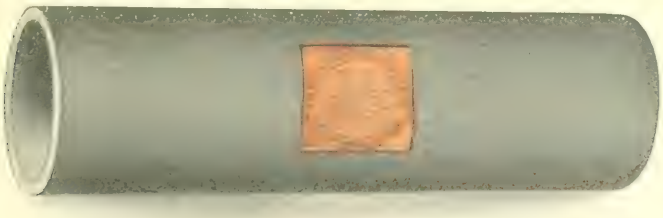
See Telegraph Code pages 115 and 120



"Crescent" (TRADE MARK) brand Rubber Fire Hose is made from high grade materials on special duck, and is carbolized to prevent mildew and rot. We offer it as second in quality only to our "Maltese Cross" brand.

"Beaver" TRADE MARK brand is the lowest price rubber hose we make specially for fire purposes. It is designed to meet the demand for a low priced rubber fire hose of good value, and while not offered as at all equal in wearing qualities to our "Maltese Cross" or "Crescent" brands, we claim it to be at least equal to the best rubber fire hose offered by most other makers at much higher figures.

It is also used with great success for ship and mine service where a high grade of cold water hose is required. Made in all sizes.

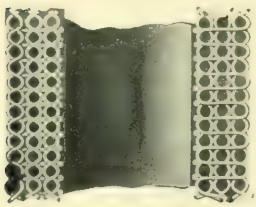


See Telegraph Code pages 115 and 120

COTTON FIRE HOSE

We are the exclusive Canadian manufacturers of the celebrated "Eureka" brands of Cotton Rubber Lined Fire Hose, comprising solid woven, double jacket and knitted fabrics. The cotton used in all these lines is treated antiseptically with the best known preparation for the prevention of mildew and rot, which preserves the hose by permanently neutralizing those elements of raw cotton that are liable to decay.

All our rubber linings are hand made with lap welded joint, from four-calendered sheets, and are guaranteed not to come loose from the fabrics.



Cross section of "Eureka" Fire Hose.

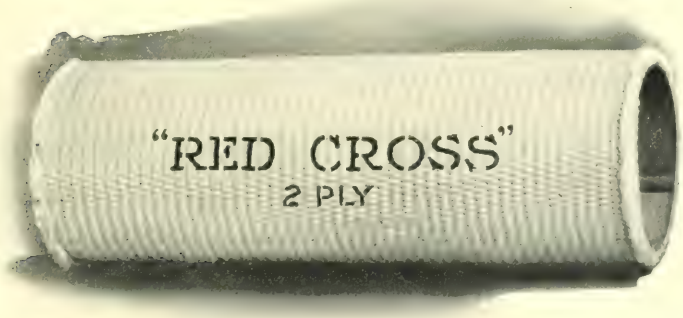
"Eureka" (TRADE MARK) brand 4-ply seamless, circular, solid, multiple-woven hose is the strongest cotton rubber lined fire hose made. It is supplied in all sizes from 2½-inch to 6-inch, and is intended for heaviest fire department, water tower and fire boat service. Made with smooth interior ply, as described on page 53.

"Paragon" (TRADE MARK) brand Cotton Rubber Lined Fire Hose is similar in all respects to "Eureka" brand except that it is a 3-ply fabric. It has won the highest reputation for excellence and durability in heaviest fire department service.

See Telegraph Code pages 115 and 120

"Paragon" (TRADE MARK) is the most widely used fire hose on this Continent and is in constant and increasing demand.

"Red Cross" (TRADE MARK) is a 2-ply hose constructed on the same principles as our "Eureka" and "Paragon" brands, having the smooth interior ply. This hose possesses ample strength for any fire department where the additional plies of our "Eureka" and "Paragon" brands are not required to withstand the abrasion due to frequent use.



"PEERLESS"
"SURPRISE"
"NEW PEERLESS"
"NEW SURPRISE"

DOUBLE JACKET FIRE HOSE

COTTON, RUBBER LINED

All manufacturers of Fire Hose make Jacket Hose. Other makers offer it, under their respective brands, as their best hose. Though exceedingly strong and somewhat less costly, Jacket Hose, because of its construction, cannot compare in points of durability and general satisfaction with our solid woven brands, "Eureka," "Paragon" and "Red Cross."

"Peerless" (TRADE MARK) is our well known brand of circular woven Jacket Fire Hose. It is a combination of two woven jackets separate from each other instead of being united as in our "Paragon" brand.

"Surprise" (TRADE MARK) Jacket Fire Hose is a combination of two heavy knitted fabrics similarly constructed, one being knitted over the other.

"New Peerless" (TRADE MARK) Jacket Fire Hose is a combination of woven and knitted fabrics, producing a hose of excellent wearing surface, having the advantage of a knitted interior with the loop stitches turned to the inner surface to provide specially smooth water way.

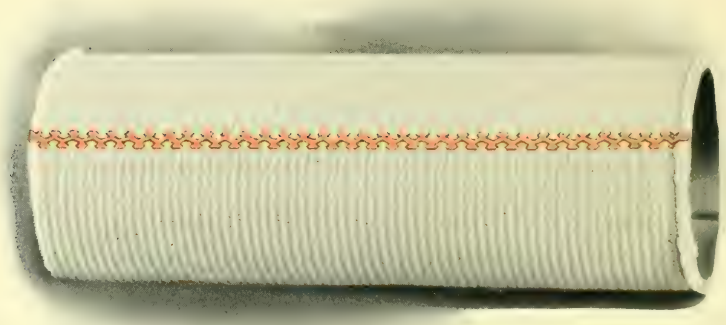
"New Surprise" (TRADE MARK) Jacket Fire Hose is similar to our "Surprise" brand, excepting in this particular, that the inner jacket is knitted with its loop stitches turned to the inner surface to provide smooth water way.

We have several other brands of solid woven and jacket Fire Hose which, for lack of room, we are unable to illustrate here. Fuller description of all our lines in special "Fire Hose and Supplies" Catalogue, sent on application.

See Telegraph Code pages 115 and 120

THE GUTTA PERCHA & RUBBER MFG. CO.
OF TORONTO LIMITED

"GUTTAPERCH" BRAND
(TRADE MARK)
UNDERWRITER STANDARD FIRE HOSE
COTTON, RUBBER LINED



ACCEPTED

This hose is antiseptically treated by the best known method, approved by the Underwriters, for prevention of mildew and rot. It is made in accordance with the latest specifications and requirements of "The Associated Factory Mutual Fire Insurance Companies," and those of the "National Fire Protection Association," adopted as the "National Standard," and is accepted and approved by the inspectors of these companies.

Each length of the "Guttaperch" brand Underwriter Hose has a Special Registered Mark (*Checkered Red Line*) woven in the fabric, and is branded

"'Guttaperch' Underwriter 2½ inch Hose
MANUFACTURED BY
The Gutta Percha & Rubber Manufacturing Co.
of Toronto, Limited"

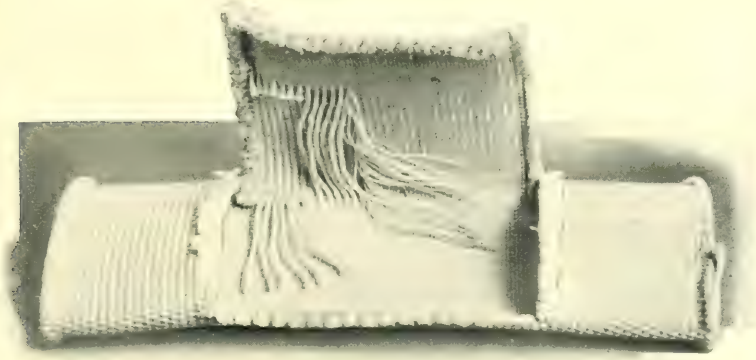
as required by the Underwriters. It will stand a pressure of 400 lbs. to the square inch on delivery, and is fully guaranteed in every respect.

Supplied also in sizes 2⅛ inch and 1⅝ inch.

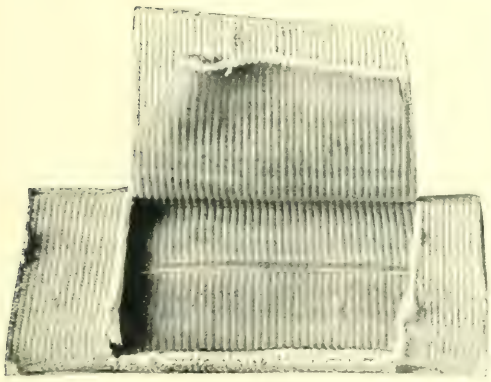
Special attention is called to the **smooth interior construction** of "Guttaperch" Underwriter Hose fabric, as described on the following page.

USE MILL HOSE LIST PRICES PAGE 55
See Telegraph Code page 120

SMOOTH INTERIOR CONSTRUCTION



NEW CONSTRUCTION
Showing smooth interior surface of fabric.



OLD WEAVE
Showing rubber lining corrugated on account of rough interior of fabric.

We cannot emphasize too strongly the importance of this recent and valuable improvement in the cover of cotton fire hose, in which the corrugations are entirely filled up by an inter-woven cord, which adds greatly to the strength of the cover and prevents the rubber lining from corrugating when under fire pressure.

This makes a wonderful difference in the stream from a long line of hose, not only to the firemen but also to the pumping apparatus – whether engine or water works.

It has been established beyond doubt or question that corrugated or rough interiors cause loss of power through friction. Our hose fabrics having smooth interiors insure smooth rubber linings. This feature is patented and is confined solely to the Eureka brands of hose.

"Guttaperch" Underwriter Hose is lined with the finest quality thin Para Rubber linings, made from three calendered sheet with lapped seams, as required by the latest Underwriter Specifications.

USE MILL HOSE LIST PRICES PAGE 55
For Underwriter Play Pipes see page 108

MILL FIRE HOSE

COTTON, RUBBER LINED

Our three standard brands of Cotton Rubber Lined Mill Fire Hose, illustrated above, will be found to fully meet the various needs of the trade, and we offer them as the best values the market affords. They are all of the celebrated "Eureka" circular weave, insuring uniform strength throughout, and are treated antiseptically for the prevention of mildew and rot.

MILL FIRE HOSE—Continued

"Eureka" TRADE MARK Mill Hose is seamless, circular woven, one-ply cotton and rubber lined, more than equal in strength to a three-ply rubber hose. It is intended for factories, hotels, warehouses, public institutions, etc., and for general fire protection where a strong, light and durable hose is required.

"Trojan" TRADE MARK Mill Hose is our standard brand of Cotton Mill Fire Hose. Though of lighter weight than "Eureka" Mill Hose, it is very strong, being intended to withstand a pressure of 300 pounds per square inch on delivery. The most satisfactory hose on the market at the price.

"Pioneer" TRADE MARK Mill Hose is a light weight circular woven hose designed to meet the demand for a low-priced hose of good value. Intended for light mill or warehouse fire protection service. Will withstand 250 pounds per square inch on delivery.

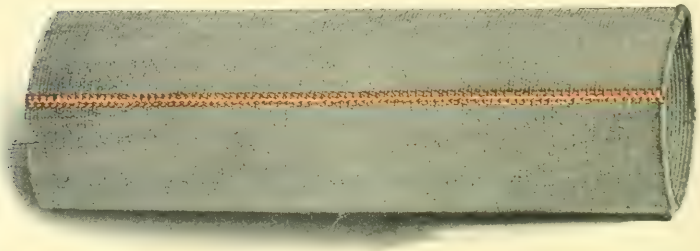
All the above brands of hose being circular woven are in their normal condition when under service pressure.

NEW LIST PRICES
FOR COTTON, RUBBER-LINED MILL FIRE HOSE

1¼ inch internal diameter, per ft.	$ .50
1½ " " " "	.60
2 " " " "	.80
2½ " " " "	.90
2½ " " " "	1.00

CANCELLED

LINEN FIRE HOSE

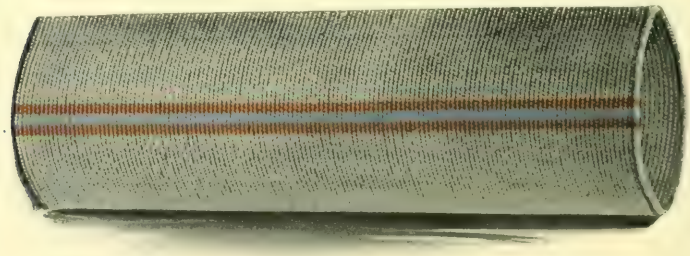


"CROWN" UNDERWRITER STANDARD BEST LINEN HOSE
(TRADE MARK)

Is made in accordance with the latest specifications and requirements of "The Associated Factory Mutual Fire Insurance Companies," and those of the "National Fire Protection Association," and is accepted and approved by the inspectors of these companies. The distinguishing trade mark of this hose is a checkered red line woven in the fabric, as shown in cut.

"Crown" Underwriter Unlined Linen Hose is woven from the finest quality selected pure linen yarns. The fabric is so closely and tightly woven as to render it practically water tight, and is guaranteed to fulfil the Underwriters' specifications. We guarantee it to withstand a pressure of 400 lbs. per square inch on delivery.

"Crown" trade mark used by permission of The Toronto Rubber Co., Limited.



"VICTOR" RED AND BLUE STRIPE UNLINED LINEN MILL FIRE HOSE
TRADE MARK

This hose we stock in a good quality at low price, but we neither keep nor offer the cheapest grades in which linen hose is made, as we consider them unreliable.

LIST PRICES FOR UNLINED LINEN HOSE

1 inch diameter, per ft.	$ .20	2 inch diameter, per ft.	$ .36
1¼ " " "	.24	2¼ " " "	.40
1½ " " "	.30	2½ " " "	.45

See Telegraph Code page 120

CHEMICAL ENGINE HOSE

"MALTESE CROSS" AND "LION" BRANDS

This hose is specially made to resist the action of chemical engine charges. It also combines great strength and pliability without the tendency to kink.

The "Maltese Cross" brand is without equal for fire department service.

LIST PRICES

¾-inch, 4-ply, per ft.	$ .67
1 " " "	.83
1¼ " " "	1.04

See Telegraph Cover page 112

CANCELLED
SEE NEW PRICE LIST
INSIDE FRONT COVER

FIRE EXTINGUISHER AND SODA TUBING

RED RUBBER COVER, WHITE RUBBER TUBE

Made extra strong and heavy, and will withstand very great pressure. Supplied in two weights, viz., "Light" and "Heavy."

⅜-inch, inside diameter, per ft.	$ .23
½ " " " "	.28

See Telegraph Cover page 112 Insertion Tubing page 155

RAILROAD SUPPLIES

We now commence a chapter on rubber supplies of various kinds for railroads. To no branch of our business have we given more careful study than to the production of serviceable materials for railroad work, and we confidently offer our various specialties listed in the following pages as the very best the market affords.

Special attention is given to the production of goods to railroad companies' specifications, and to the originating of special articles to meet special conditions.

We fully guarantee all our goods against imperfections in either material or manufacture, and should any fail or give out through these causes, will replace same with perfect goods.

AIR BRAKE HOSE

Our **"Maltese Cross"** Air Brake Hose has a well earned international reputation as being a most reliable and highly serviceable article. In its manufacture we employ a specially woven duck and a high grade rubber stock. The greatest care is taken in its manufacture to provide against mechanical defects.

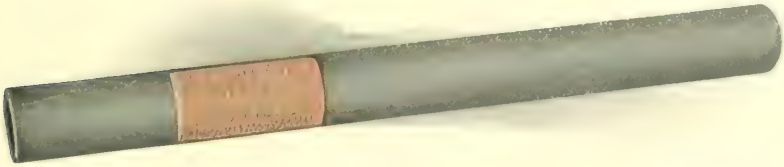
This hose is made in short lengths as required without additional charge. The ends are fitted to suit the couplings, and are capped with pure rubber to protect the duck. These end caps are moulded with beveled inner edges to admit the insertion of the coupling shanks the more readily, thus preventing chafing or tearing.

We make Air Brake Hose to comply with the specifications of the Master Car Builders' Association, or to those of individual railroads.

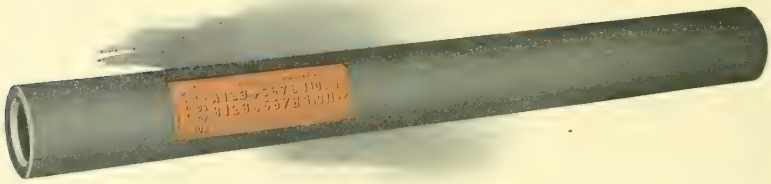
For excellence and uniformity in material, manufacture and finish, our Air Brake Hose has no rival.

Also supplied in 50 foot sections.

USE STEAM HOSE LIST PRICES PAGE 34



See Telegraph Code page 119



STEAM CAR HEATING HOSE

We have made a most careful study of hose for car heating service. The conditions encountered here are in many respects quite different to ordinary steam hose service, and our aim has been to produce an article especially suited to the needs.

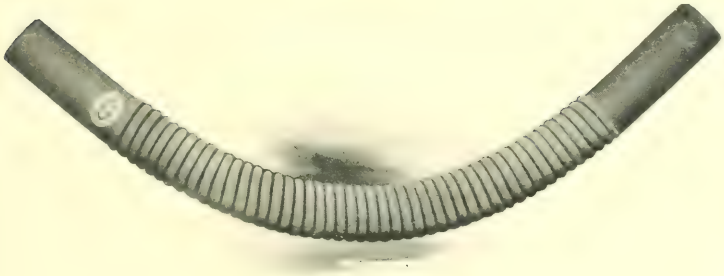
In this hose we employ a special heavy cotton duck. The tube is hand made from double calendered stock possessing peculiar heat resisting qualities. We furnish the hose in short or long lengths, as required, and with either plain or beveled rubber capped ends as desired.

For many years we have supplied large quantities of this hose to all the leading railroads of the country with unvarying satisfaction, and the constantly increasing business with which we are favored is the best evidence of the merits of our goods.

Each length of our Steam Car Heating Hose is plainly branded, when so ordered, with raised letters and figures, by which the month and year of application and removal may be recorded.

USE STEAM HOSE LIST PRICES PAGE 34

See Telegraph Code for prices 115, 116 and 117



CORRUGATED TENDER HOSE

For conducting water between locomotive and tender. Made in any size desired, with spiral wire coil imbedded to prevent kinking or collapse. Finished with corrugated surface as shown in cut. Ends prepared or enlarged to suit fittings.

Made for Steam and Water Service, for use in severe climates, or for Water Service only, as required.

PRICES ON APPLICATION

HAGGIS HOSE

With steel spiral wire coil inside, for railroad suction service. Supplied in all sizes and of any number of plies desired.

PRICES ON APPLICATION

GAS HOSE

Used in filling tanks under passenger cars equipped with gas-lighting system. Usually made in 50-foot lengths, and served with marline or wire if desired.

PRICES ON APPLICATION

SPECIAL RAILWAY WATER HOSE

For general railway service we make a water hose in all sizes specially adapted to the conditions encountered, and which we can supply at moderate cost. We furnish this hose either plain or wire wound.

FOR LIST PRICES SEE PAGE 30

For Wire Winding see List Prices page 30

See Telegraph Code pages 115, 116, 117 and 118

SPECIAL RAILWAY STEAM HOSE

This hose is intended for general railway steam and hot water service. It is supplied in 50-feet lengths, but will be made to order in shorter lengths if desired. It will be found highly satisfactory for the work for which it is intended, but should not be confused with the car heating hose described on page 60.

Supplied either Plain or with Marline or Wire Winding, as desired.

FOR LIST PRICES SEE PAGE 34

For Marline Winding add 10 per cent. to net price of hose.

For Wire Winding see List Prices page 35

See Telegraph Code pages 115, 116, 117 and 118

HOT WATER HOSE

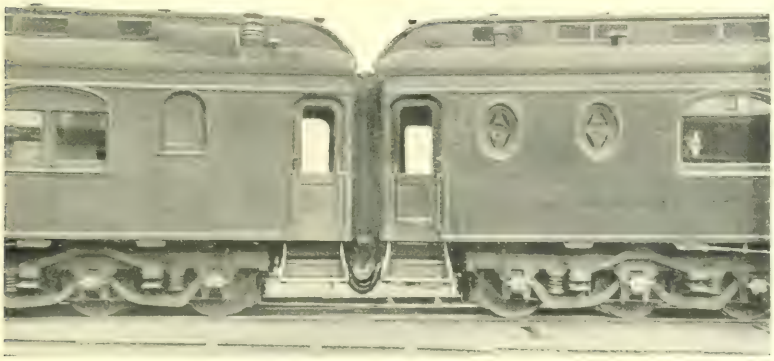
"MALTESE CROSS" BRAND

This hose is made from very high grade rubber stocks on heavy duck and is specially suited to the service required.

Supplied with either white or gray rubber cover, as desired.

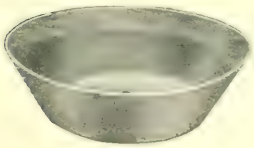
FOR LIST PRICES SEE PAGE 30

See Telegraph Code pages 116, 117 and 118



CAR VESTIBULE DIAPHRAGMS

In addition to the standard Vestibule Passenger Car Diaphragms, such as are in general use on all Pullman coaches, we also manufacture diaphragms to railroad companies' private specifications. We supply them large or small, light or heavy, and with any number of sections desired.



VACUUM BRAKE DIAPHRAGMS

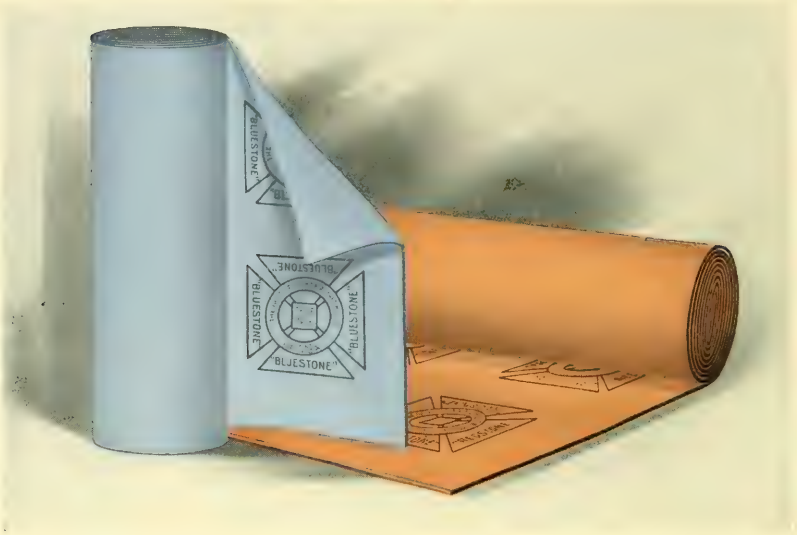
Made from high-grade materials, specially suited to the requirements. Supplied in all sizes. Prices on application.

TANK VALVES

For railroad water-tank service. Supplied in all sizes from our own moulds.

LUBRICATOR WASHERS

Specially designed for this service. Made from a high grade rubber stock, with spiral canvas insertion and two-ply canvas wrapped. Supplied to order of any dimensions required.



HIGH-PRESSURE SHEET PACKING

"**Redstone**" (TRADE MARK) Packing has proved in actual test to be superior in lasting properties to any other similar packing on the market. It will hold and is not easily affected by the highest steam pressure, and will make an air, steam, hot or cold water joint equally well. Stocked in rolls 36 inches wide.

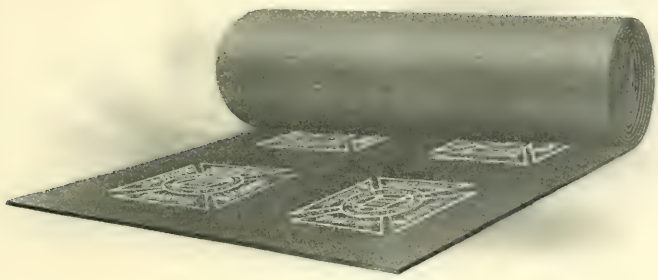
"**Bluestone**" (TRADE MARK) Packing has established an excellent record for satisfactory service. Like "Redstone," it can be successfully used in thinner sheets than other kinds of packing with thoroughly satisfactory results, rendering them the most economical packings on the market. Stocked in rolls 36 inches wide.

We supply "Redstone" and "Bluestone" packing with iron or brass wire insertion to order in full roll lots.

LIST PRICES

Plain, per lb.	$1.00
Iron wire insertion, per lb.	1.10
Brass wire insertion, per lb.	1.10

See Telegraph Code page 122



"BLACKSTONE" HIGH-PRESSURE SHEET RUBBER PACKING

(TRADE MARK)

Oils and Alkalies are particularly hard on most sheet packings. "Blackstone" is specially compounded to resist them, and will do so to a greater extent, perhaps, than any other grade. A particularly valuable feature of it, however, is that in addition thereto it is one of the very best packings for high pressure Steam, Air, or Water, and is, therefore, one of the very best sheet packings made for all purposes.

Made in all the standard thicknesses from $\frac{1}{32}$ inch up.

List price, per lb. $1.50

See Telegraph Code page 122

"AURORA" BRAND RED SHEET RUBBER PACKING

(TRADE MARK)

A good grade red rubber sheet packing, second only to "Redstone." Designed to meet the needs of certain trade where a reliable red rubber packing is required at moderate cost.

Supplied in rolls 36 inches wide and any thickness from $\frac{1}{16}$ inch up.

List price, per lb. $1.00

CLOTH INSERTION RUBBER PACKING

Made in several qualities in rolls 36 inches wide, and in three ways, viz.,

"**Plain**"—Rubber outside with cloth insertion.

"**C. O. S.**"—Cloth on one side.

"**C. B. S.**"—Cloth on both sides.

THICKNESS	1-PLY	2-PLY	3-PLY	4-PLY
$\frac{1}{64}$ inch	$ .70			
$\frac{1}{32}$ "	.65			
$\frac{1}{16}$ "	.60	$ .63	$ .66	
$\frac{3}{32}$ "	.55	.58	.61	
$\frac{1}{8}$ "	.55	.55	.58	$ .61
$\frac{5}{32}$ "	.55	.55	.58	.61
$\frac{3}{16}$ "	.55	.55	.55	.58
$\frac{1}{4}$ "	.55	.55	.55	.55

One ply of cloth to every $\frac{1}{16}$ inch thickness.

Three cents per pound additional will be charged for each extra ply of cloth. Each cloth, whether insertion or on outside, to count as one ply.

WIRE INSERTION PACKING

PLAIN RUBBER

$\frac{1}{16}$ inch and upwards, per lb. . . . . $ .80

PURE RUBBER SHEET PACKING

WITHOUT CLOTH

Made regularly in rolls about 36 inches in width, of any thickness or length desired, and in a variety of qualities to suit purpose for which it is intended.

Special widths made to order up to 72 inches.

List price, per lb. $1.40

PURE RUBBER STRIPS

Of almost any dimensions. Made to order in reasonable quantities. In ordering state shortest lengths suitable.

List price, per lb. $1.50

PLUMBAGO SHEET PACKING

SELF-VULCANIZING

Will vulcanize when in place and make a perfect joint. Specially adapted for use on uneven surfaces. Two or more thicknesses can be put together, and under heat or pressure become as one piece. Kept in stock in sheets $\frac{1}{16}$ and $\frac{1}{8}$ of an inch thick, other sizes made to order on short notice.

LIST PRICES

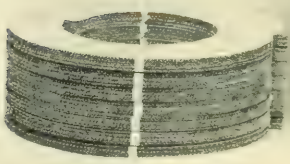
Plain per lb.,	$ .70
Wire Insertion per lb.,	.80

DIRECTIONS FOR USING PLUMBAGO PACKING.

Place the packing in position and screw up the nuts tight *while cold*. Let the steam on enough to warm the packing, which, being unvulcanized, will soften when steam is first applied to it. Follow up the joint carefully until there is no escape of steam, and the packing has become hard and fitted to the joint. Cut bolt holes a little less in diameter than the size of bolts. Cut the inside hole $\frac{1}{8}$ inch larger all round.

Plumbago Gaskets—see page 73

See Telegraph Code page 122



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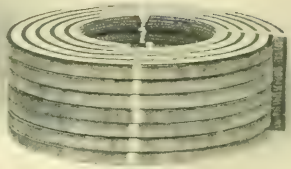

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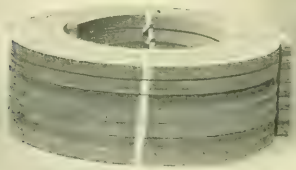

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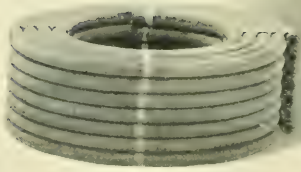

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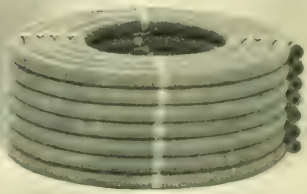

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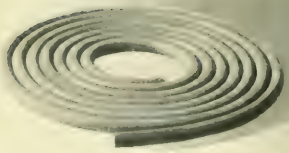

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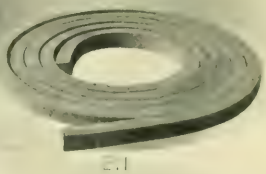


211

PISTON ROD PACKINGS

Cut Numbers

205 Square Duck, Plain

Made in 12-foot lengths and in all sizes from ¼-inch upwards.

List price, per pound . . . . . $ .85

206 Square Duck, Rubber Back

Made in 12-foot lengths and in all sizes from ¼-inch upwards.

List price, per pound $1.00

207 "Hydraulic" or "Elevator" Packing

Made of fine duck and white rubber, very firm, just the thing for packing hydraulic elevators. Supplied in 12-foot lengths, all sizes.

List price, per pound $1.25

208 Round Duck Piston Packing (rubber core)

Made of 12-foot lengths and in all sizes from ¼-inch upwards

List price, per pound . . . . . $ .85

209 "Victoria" Round Piston Packing

TRADE MARK.

Made of loosely woven duck and a round self-vulcanizing core. Very flexible and highly satisfactory. Supplied in 12-foot lengths, all sizes.

List price, per pound $1.00

210 Pure Gum Round Cord

Kept in stock in 12-foot lengths of a medium quality. Special qualities made to order.

LIST PRICES

¼-inch, . per lb.,	$2.00	¾-inch, · per lb.,	$1.60
⅜- " . "	1.75	⅞- " . "	1.60
½- " . "	1.65	1- " · "	1.50
⅝- " . "	1.65	Larger sizes, "	1.50

211 Pure Gum Square Packing

Made in 12-foot lengths and in all sizes. Per pound, $1.50

"SUN" BRAND (TRADE MARK) PISTON ROD PACKING

212—"Sun" Spiral Piston Packing

is made in the form of a continuous coil and is shaped to the rod and box, thus avoiding the trouble of bending to make it fit its place. It is made of high grade material throughout, is thoroughly lubricated and very flexible.

Carried in stock in all sizes from $\frac{3}{16}$ in. to 1 in. Larger sizes made to order on short notice.

Each box contains one coil of about 12 ft. We furnish full boxes only.

Per lb. $1.20

213—"Sun" Elastic Ring Packing

Made to order on short notice.

Per lb. $1.20

214—"Sun" Sectional Ring Packing

Made to order on short notice.

Per lb. $1.20

How to Order Ring Packing

Give exact diameter of Piston, Valve or Cut-off Rod to be packed, also diameter and depth of Stuffing Box. State number of rings wanted, and whether "Sectional" or "Elastic" Rings are preferred. Packed for shipment in suitable boxes to keep them free from dirt or grit.

Directions for use accompany each shipment.

See Trade Mark Cuts page 113

THE GUTTA PERCHA & RUBBER MFG. CO.
OF TORONTO LIMITED

Once Tried, Always Used

"BLUVIC" SPIRAL PISTON PACKING
TRADE MARK

This packing consists of a solid core of our celebrated **"Bluestone" Packing Compound,** surrounded by layers of soft, loosely woven duck, the outside being thoroughly lubricated with a special grade of selected plumbago, absolutely free from grit or acid.

"Bluvic" Packing is soft, elastic and durable. It will withstand the heat of high pressure steam, and combines all the desirable features of a first-class piston and valve-rod packing.

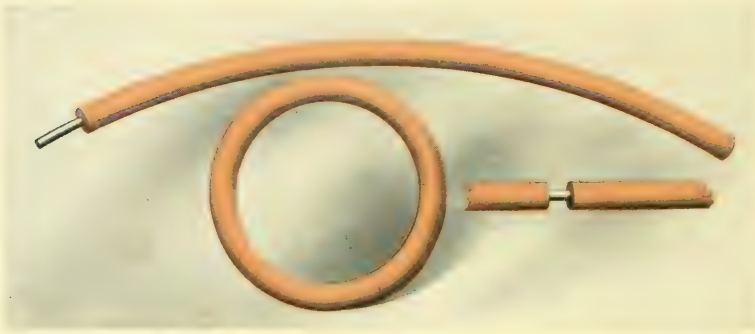
Made in all sizes from ¼ inch up, and put up in boxes in coils made from 12 foot lengths.

List price, per lb. $1.20

MANUFACTURED EXCLUSIVELY BY

THE GUTTA PERCHA & RUBBER MFG. CO.

OF TORONTO, LIMITED



"REDSTONE" PNEUMATIC GASKET

Made from our celebrated "Redstone" High Pressure Packing Compound. It will not harden readily under the highest steam pressure and may be taken out and repeatedly replaced. Gaskets can be made any size desired in less time than by any other method and without any waste whatever.

DIRECTIONS FOR USE

Lay the Gasket Tube around the man or hand-hole plate about ¼ inch from the inside shoulder and cut the ends off square, so they will go around the plate and meet nicely. Insert the lead bar half way in each end, butting the ends together, and wrap the seam spirally with the gummed tape. Make the joint as usual. It is not necessary to screw up the plate as hard as with the old-style gasket, as the "Redstone" Pneumatic Gasket will flatten and conform perfectly to any seat, no matter how rough it may be.

Made in all sizes from ¼ inch to 1 inch, and supplied in paper boxes usually containing about 5 or 6 pounds each.

List price, per lb., ... $1.20

¼ and ⅜-inch for Pipe Unions. ½-inch for Hand-Hole Plates.
⅝ and ¾-inch for Man-Hole Plates.
¾ and 1-inch for extra large Man-Hole Plates.

"BLUESTONE" PNEUMATIC GASKET

Made from our "Bluestone" High Pressure Packing Compound. To order only.

List price, per lb., . . $1.20

See Telegraph Code page 125

GASKETS AND RINGS

We make gaskets and rings to order for any purpose on short notice. Where gaskets are of irregular shape or are required with holes in rim, templets or heavy paper patterns should accompany orders to prevent mistakes.

CLOTH INSERTION GASKETS

Supplied either with plain rubber surface or cloth on one or both sides, as desired.

$\frac{1}{16}$ inch thick or less, per lb.	$1.25
$\frac{3}{32}$ inch thick and upwards, per lb.	1.00

FIBROUS GASKETS

$\frac{1}{8}$ inch thick or less, per lb.	$ .90
$\frac{3}{32}$ inch thick and upwards, per lb.	.80

PURE GUM GASKETS OR RINGS

Any size and thickness, per lb.	$1.50

"REDSTONE" FLAT RIM GASKETS

Any size and thickness, per lb.	$1.50

PLUMBAGO GASKETS

$\frac{1}{16}$ inch thick and upwards, per lb.	$1.00

RUBBER TUBING

Pure white, corrugated or smooth surface, with light, heavy and extra heavy walls.

LIST PRICES

Internal Diameter		Internal Diameter	
1/8 inch, per foot,	$ .08	1/2 inch, per foot,	$ .25
3/16 " "	.12	5/8 " "	.30
1/4 " "	.16	3/4 " "	.35
5/16 " "	.18	1 " "	.45
3/8 " "	.20		

CLOTH INSERTION TUBING

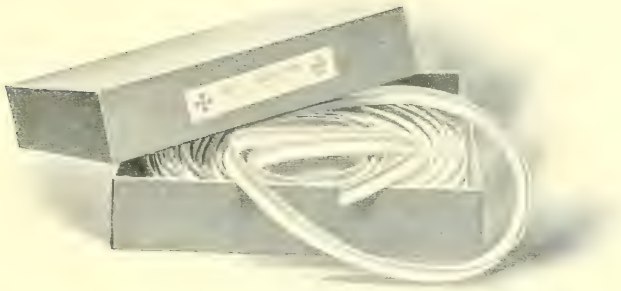
With white or red rubber cover. Used for various purposes, largely by bottlers and on beer pumps.

LIST PRICES

Internal Diameter.		Internal Diameter.	
1/4 inch, per foot,	$ .18	5/8 inch, per foot,	$ .33
5/16 " "	.20	3/4 " "	.38
3/8 " "	.23	1 " "	.50
1/2 " "	.28		

Fire Extinguisher and Soda Tubing, see page 57.

See Telegraph Code page 123



RUBBER DRAUGHT TUBING

For rendering door and window casings, etc., wind and dust-proof. Made of a fine white tubing stock, with double frictioned cotton flange. Pneumatic in principle, it is the most effective weather strip made.

Put up in strong cardboard boxes containing 100 feet each.

LIST PRICES

3/16 inch, per foot	$ .07
1/4 " "	.09
5/16 " "	.10
3/8 " "	.12
7/16 " "	.14

See Telegraph Code page 123

PERAMBULATOR TIRE TUBING

We manufacture large quantities of this material for makers of children's vehicles, producing a very reliable article at moderate cost.

DREDGE SLEEVES

Are used as flexible connections between sections of iron pipe forming a line between the dredge and the point of discharge for conveying the material pumped.

Our dredge sleeves are made with a strong tough rubber inner lining, to resist the abrasive action encountered in this service. We make them of any required strength and in any size and length desired.

See Telegraph Code pages 116 and 117

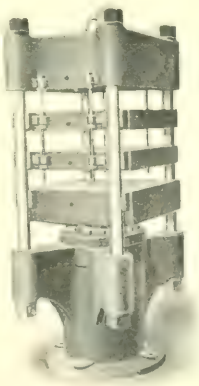
MOULDED RUBBER GOODS

It would be practically impossible to catalogue the entire list of moulded rubber articles we manufacture in thousands of shapes and sizes, and for almost as many purposes. In the following pages we illustrate and list a few of the standard lines of moulded goods we make for various trades.

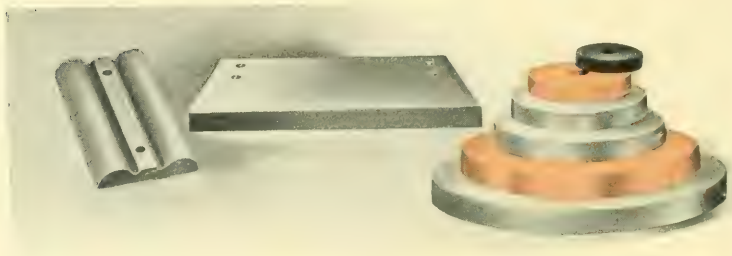
Our facilities for manufacture in this line are very extensive and complete. Our large Press Room is full of the latest appliances, and a constantly increasing demand for our goods attests the satisfaction our products give.

We make a specialty of the manufacture of proprietary articles from customers' private moulds and are glad to give any assistance we can in the preparation of suitable moulds for the purpose intended. We will also, if desired, have the moulds made to customer's order, charging same at lowest possible prices consistent with good workmanship.

In the accompanying illustration we show a cut of a hydraulic press with hollow steam heated plates such as is used to heavily compress and cure moulded rubber goods. After the mould has been carefully filled with rubber it is placed between these press plates which are then brought together under great hydraulic pressure and are heated by steam, bringing the temperature in the mould to the desired point and maintaining it for a sufficient time to effect proper vulcanization. The mould is then removed and emptied



We solicit correspondence from those desiring special rubber goods made to order, and are confident we can give entire satisfaction.



RUBBER PUMP VALVES

We have given this branch of our business most careful study, and by compounding specially for the varied uses to which valves are put, are able to furnish valves properly adapted for the work intended.

If intending purchasers, who are not familiar with our valves, will furnish full information regarding the service required, it will enable us to suggest a suitable stock and may save themselves much trouble and expense. A great deal depends upon the selection of a stock adapted to the particular purpose.

When ordering state:

1st. Dimensions.
2d. Size of hole (if any).
3d. Thickness.
4th. Round or square, if size admits of any doubt.
5th. For use in hot or cold water.
6th. Soft or medium or hard.
7th. Quote our compound number if possible (see next page).

RUBBER VALVE GUM

All Valve Compounds described on following page can be supplied upon order in sheets of almost any width, length and thickness. Usual size of sheets, 36 in. x 72 in.

See Telegraph Code page 125

VALVE STOCKS

Stock Number	Description
8	Gray. For cold water. Medium texture. Moderate cost. May be used for hot water in low temperatures. Excellent for ordinary pump work where pounding is not too severe.
9	Gray. For hot or cold water. Soft and flexible. Excellent for foot valves, air pumps, etc.
11	Red. Soft antimony marine valve, for hot or cold water. One of the finest compounds known for soft valves in danger of oil contact, for condensers and marine work.
440	Black. Made in **Medium, Hard** or **Very Hard.** In ordering state which texture is required. For hot or cold water pumps, especially where toughness is needed to stand heavy pounding. For straight lift, not to bend.
441	Gray. The richest, softest and best valve that can be made for cold or hot water, where a lively soft valve is wanted.
492	Red. The finest and softest antimony valve made for work similar to that for which No. 441 is intended.
605	Gray. For cold or hot water. Softer than No. 8, but harder than No. 9. Rich and tough. Suitable for straight lift or cup guard.
606	Gray. For cold or hot water. Slightly harder than No. 8, very tough. For heavy work where flexible valve is needed.
620	Gray. For hot or cold water. Very rich, soft and tough. For foot valves, air pumps, etc.
874	Gray. For cold water. Hard valve for heavy pounding. Not to bend. Moderate cost.
875	Black. For hot water. Extra hard pump valve for heavy work and hard pounding. Harder than No. 440 V. H.
900	Red. High-grade marine valve for hot or cold water service. Slightly softer than No. 11.

PRICES ON APPLICATION

RUBBER SPRINGS

We make rubber springs for all purposes, of any shape or size required, in a variety of qualities and textures of stock suited to the requirements.

The following is a description of some of our Standard Spring Stocks:

No. 10—A soft resilient stock of medium quality at moderate cost.

No. 96—A firm gray stock, suitable for hard pounding.

No. 97—Highest grade heavy car spring stock, very tough and strong.

No. 409—A low-priced firm spring or buffer stock.

No. 412—A high-grade heavy car spring stock, tough and very resilient in heavy work. A splendid stock for Bradley Hammer Springs.

No. 415—A standard medium-priced stock for ordinary spring purposes. Medium soft.

No. 490—A firm, strong stock for general purposes, at moderate cost.

No. 318—Medium soft spring or buffer stock, at moderate cost.

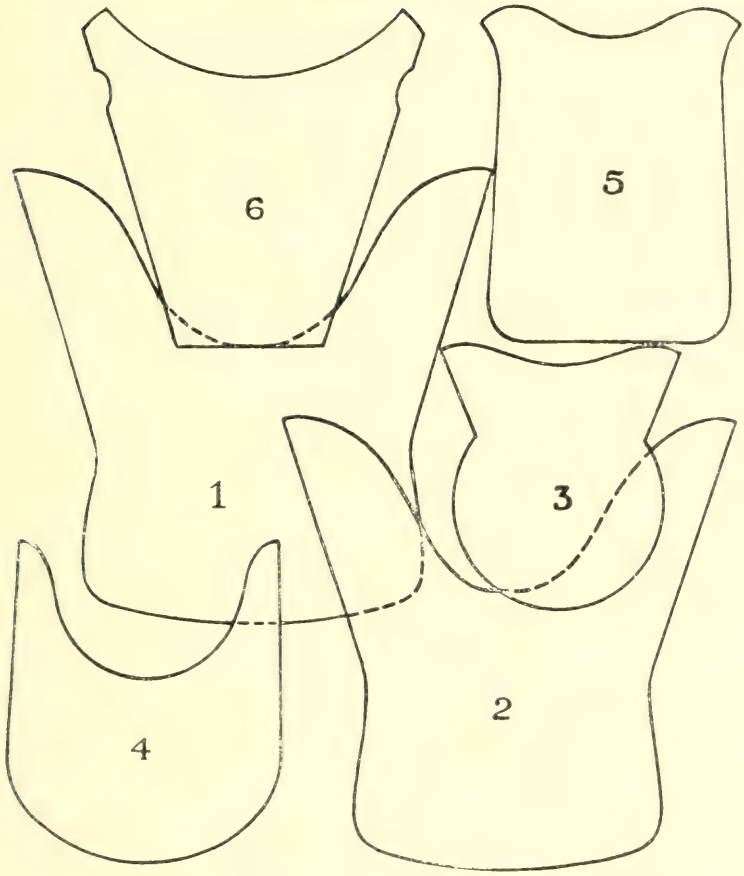
PRICES ON APPLICATION

WAGON SPRINGS

	Height	Thickness	Length
1	4 inches	2 inches	8⅞ inches
2	3¾ "	1¾ "	8½ "
3	3½ "	1½ "	7¾ "
4	3¼ "	1¼ "	7 "

List price, per lb. . . . . $ .35

See Telegraph Code page 125

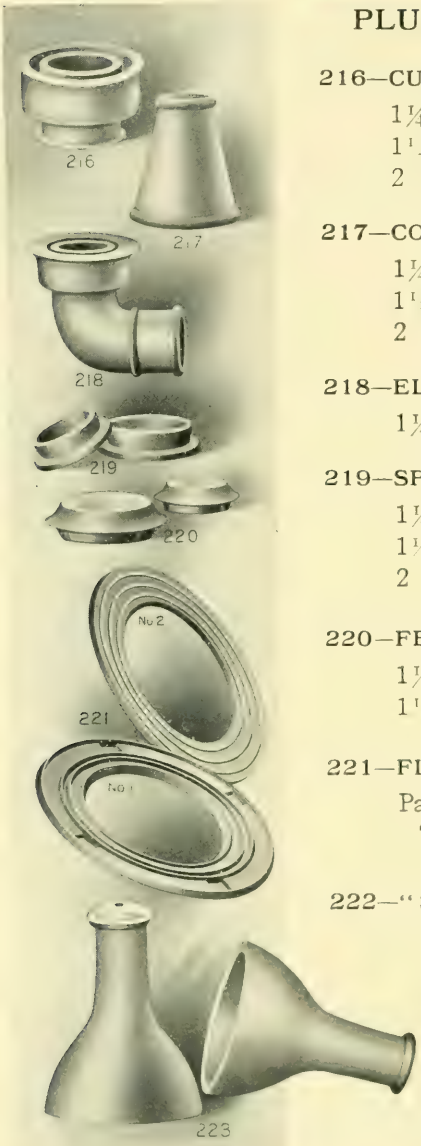


Other sizes and shapes made to order.

PULLEY OR SHEAVE FILLING

Made from a firm tough stock specially suited for this work. We have moulds for the shapes and sizes outlined above. Cuts show exact sizes and shapes. Made in lengths of about 2 feet.

List price, per lb. $1.00



PLUMBERS' SUPPLIES

216—CUP CONNECTIONS

1¼ in., per doz.,	$5.00
1½ " "	6.50
2 " "	9.00

217—CONICAL CONNECTIONS

1¼ in., per doz.,	$3.00
1½ " "	3.60
2 " "	4.80

218—ELBOW CONNECTIONS

1¼ in., per doz.,	$9.00

219—SPUD CONNECTIONS

1¼ in., per 100,	$6.50
1½ " "	8.50
2 " "	10.00

220—FEATHER EDGE WASHERS

1¼ in., per 100,	$9.50
1½ " "	10.50

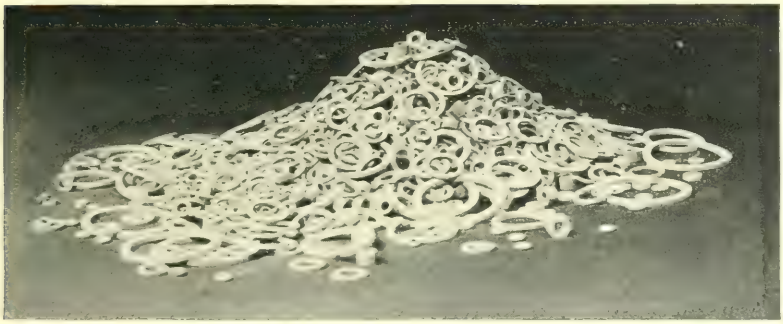
221—FLOOR FLANGES

Pat., No. 1, per doz.,	$3.00
" " 2, "	3.00

222—"SIMPLEX" FORCE CUPS

No. 1, per doz.,	$9.00
" 2, "	11.00
Handles, per doz.,	3.00

See Telegraph Code page 123



RUBBER WASHERS AND RINGS

GARDEN AND WATER HOSE WASHERS

Sizes ¾ inch to 2¼ inch, per lb. $1.50

FIRE AND SUCTION HOSE WASHERS

Sizes 2½ inch and larger, per lb. $3.00

GAUGE GLASS WASHERS

Square wall, all sizes, per lb. $2.50
Round wall, ½ inch, ⅝ inch and ¾ inch, per lb. 2.50

OIL WELL WASHERS

Made to order in any size and quality.

FRUIT JAR RINGS

Pints, per gross . . . . . $1.20 Quarts, per gross $1.40

See Telegraph Code page 125

Special washers or packing rings of large or small sizes made to order in any grade of stock.

223

BARREL WASHING MACHINE RINGS

"AJAX" BRAND
(TRADE MARK)

223

For Brewers' use.

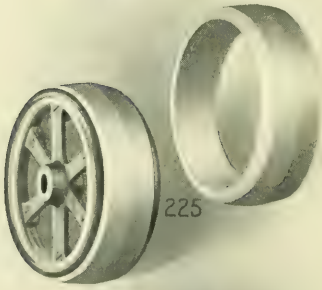
Moulded from a high-grade tough stock. Extra strong reinforced centres.

224

BALLING MACHINE RINGS

224

For balling machines in binder twine factories.


225

MOULDED TRUCK WHEEL TIRES

225

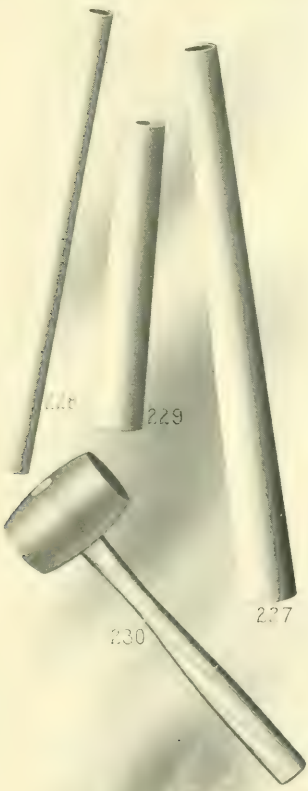
We have moulds for a number of standard sizes. We also supply tires from customers' private moulds.

BAND SAW BANDS

226

Made to order, endless, from high-grade stock to fit any size of wheel.

226



227—GRAIN DRILL TUBES

Supplied on contract to manufacturers in any size, weight or quality.

In ordering specify diameters at both ends and total length.

228—LINOTYPE KEYBOARD ROLL COVERS

"Radium" (TRADE MARK) brand slip roll covers are the most successful made for this purpose.

Price each . . . $2.00

229—WRINGER ROLLS

Highest grade only.

Per lb. . . . . $ .75

230—RUBBER MALLETS

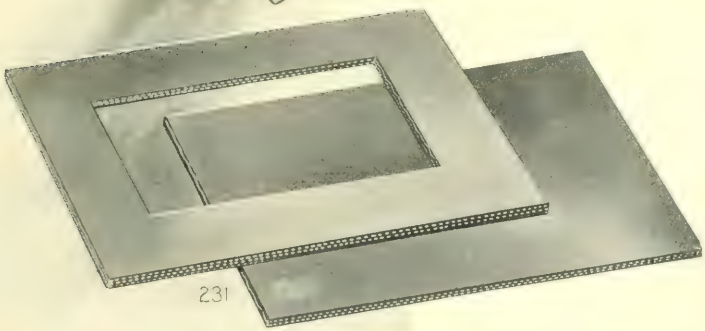
For furniture factories, etc. 1½-lb. heads.

Per doz. $24.00

231—PULP SCREEN DIAPHRAGMS

For pulp and paper mills. Any size, shape, thickness and quality.

See Telegraph Code pages 116 and 117



"MALTESE CROSS" INTERLOCKING RUBBER TILING

Is made of a special composition of rubber vulcanized to a certain degree of firmness, just sufficient to give slightly to the pressure of the foot, and which lessens the wear that takes place on the hard unyielding surface of a mosaic floor. It makes a quiet, restful floor, comfortable to the feet, and exceedingly durable, showing practically no signs of wear after years of severe service.

It is made in eight different colors, viz.: black, white, blue, red, buff, green, slate and chocolate, of soft and pleasing tones, harmonizing well with any surroundings. Made in two (interlocking) shapes, illustrated below, it affords almost unlimited design and color combination. It is noiseless, non-slippery, beautiful in appearance and thoroughly sanitary, being water and germ proof.

The interlocking feature unites the tiles into a smooth, connected sheet of rubber unlimited in area, and permitting the removal of individual tiles for replacement without disturbing any others. Repairs may also be made to the wooden flooring or to appliances beneath it, such as plumbing or electric wires, by removing any portion of the tiling necessary without entailing any damage or dirtying the premises.

Male Tile Female Tile

See Telegraph Code page 123

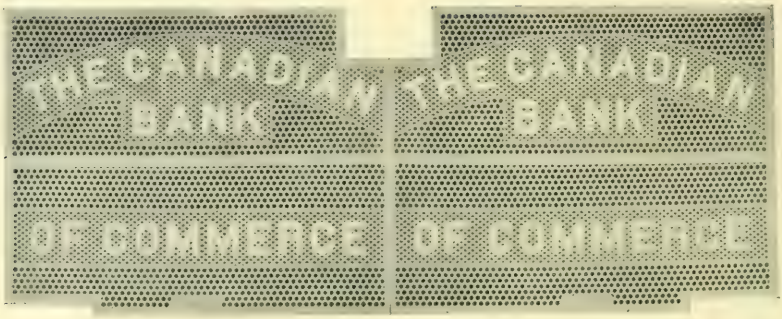
"Maltese Cross" Interlocking Rubber Tiling is a perfect flooring for public buildings, banks, business offices, vaults, court rooms, theatres, smoking rooms, cafes, hotels, hospitals, churches, libraries, bath rooms, vestibules, halls, railroad and street cars, etc.

For the decks and rooms of steamships and yachts, "Maltese Cross" Rubber Tiling is unequalled. It stands the constant racking and straining without breaking or separating, and its water-proof, weather-proof and non-slippery features render it absolutely unequalled for this service.

For bath room floors this tiling is specially desirable, not being nearly so cold as linoleum or mosaic tile. Combinations of tiles in white and green and white and blue are the most popular, and very pleasing and harmonious effects can be secured in the almost limitless designs available.

For passenger elevator floors it is unequalled. Constant jarring and wrenching do not affect it, and it stands the continual heavy wear better than any other flooring obtainable.

Handsome illustrated catalogue showing colored designs will be mailed on application. We solicit correspondence and inquiry from those interested, and will be pleased to prepare special plates showing designs and color combinations suitable for the space to be covered.



PERFORATED RUBBER MATS

To the manufacture of perforated rubber mats we give special attention and our designers are skilled in the production of effective patterns suited to the shape and size of the space to be covered.

We make these mats in three qualities which we know as our "Maltese Cross", "Crescent" and "Lion" brands, and furnish them of almost any size, thickness and shape desired.

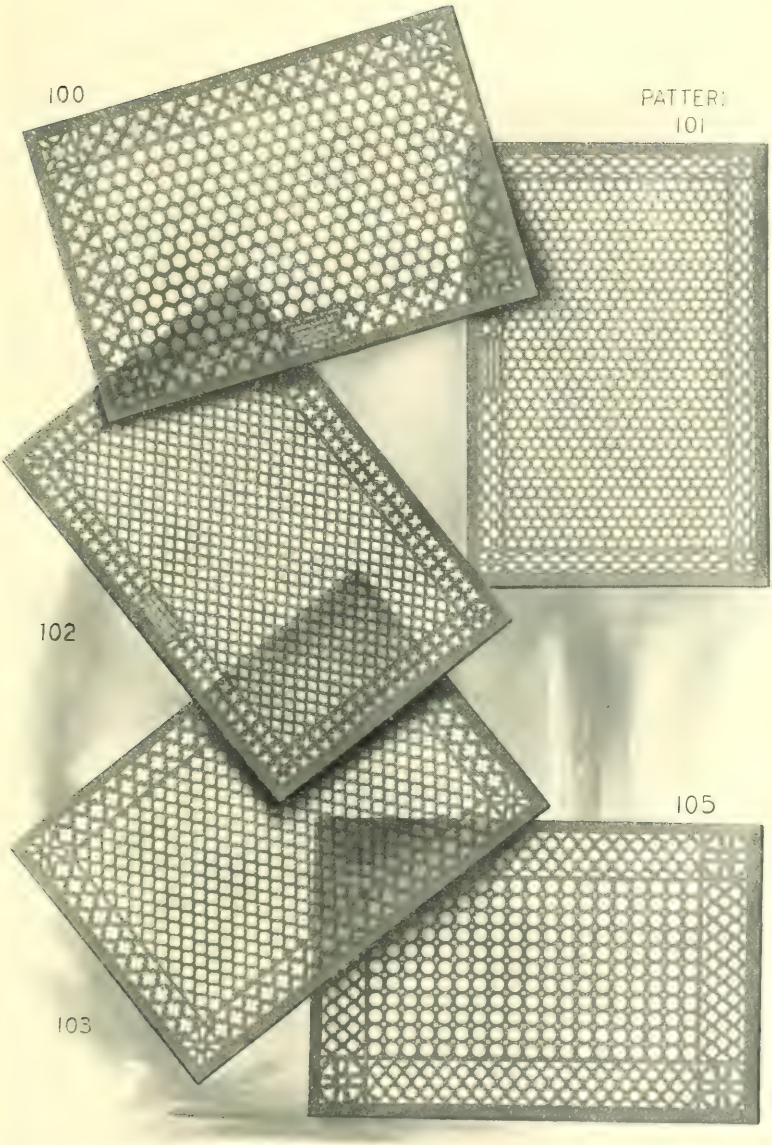
The large mat illustrated above was made of our "Maltese Cross" quality in four sections and weighed upwards of 400 lbs.

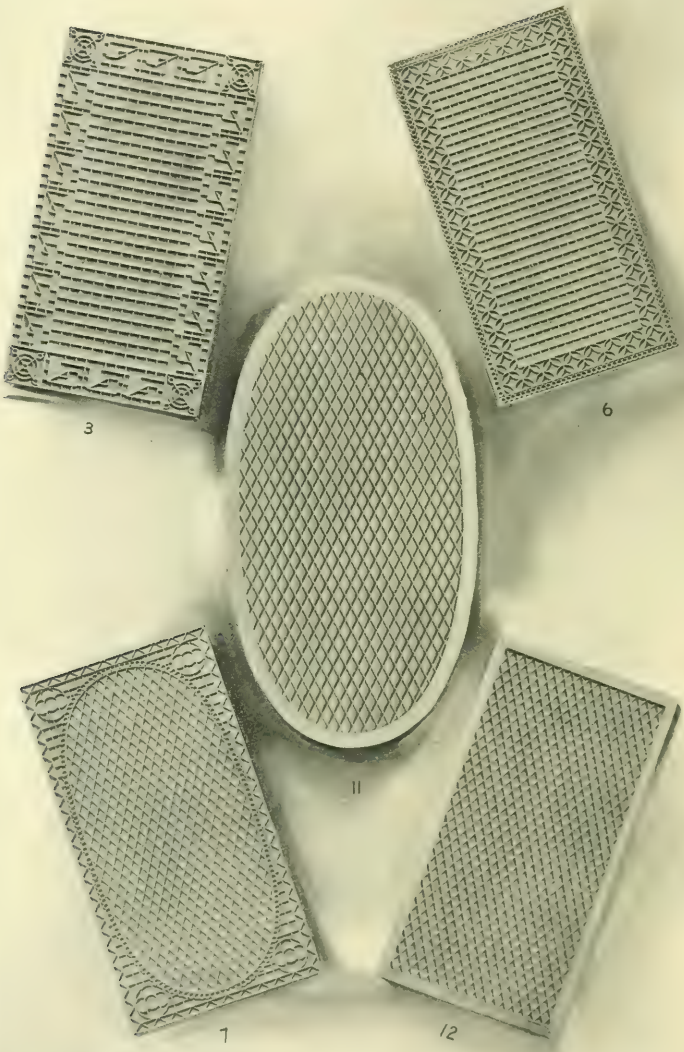
When ordering a perforated mat the safest plan is to send a pattern cut from heavy paper indicating the exact size and shape required. This pattern should be marked, showing wnich is the top or upper side, and indicating position of letters if any.

In the making of perforated mats we endeavor to select designs best suited to the general character, sizes and shapes ordered, but where practicable will conform to the wishes of our customers in the use of the particular designs requested.

List price, per lb. $1.25

See Telegraph Code page 124


100
PATTERN
101
102
105
103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6
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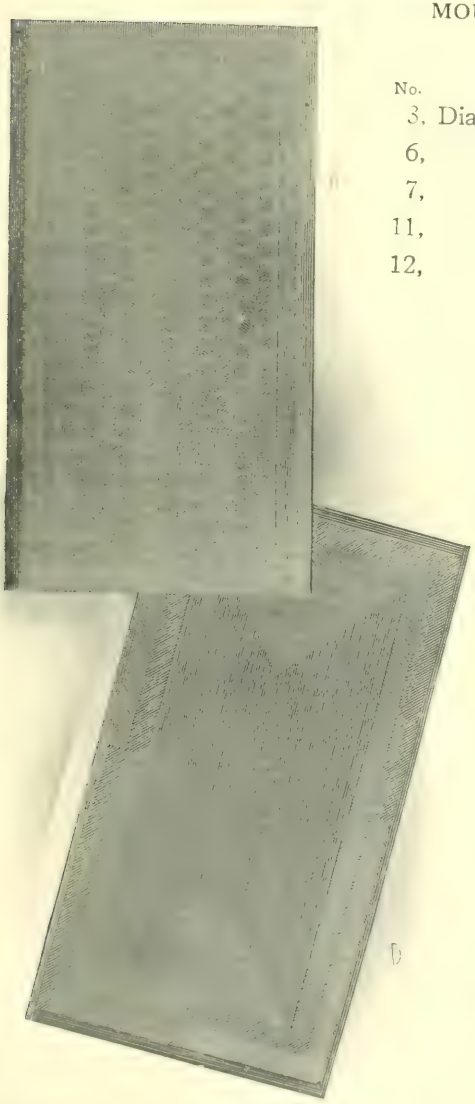
12

RUBBER DOOR MATS



MOULDED, SOLID BACK

Size 17 x 31

See cut on page 91

No.		Per doz.
3,	Diamond Pattern	$30.00
6,	" "	30.00
7,	" "	30.00
11,	" "	27.00
12,	" "	30.00

CORRUGATED DOOR MATS

Size 17 x 31

	Per doz.
Pattern "A"	$15.00
" "D"	15.00

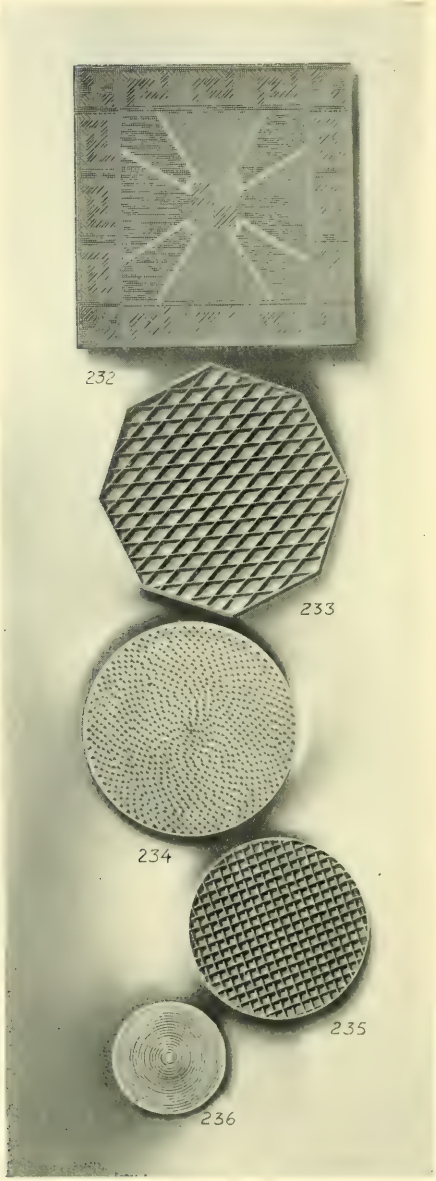
BARBERS' CHAIR MATS

Horse Shoe Shape

Fancy Corrugated Pattern

	Per doz.
½ in. thick	$50.00
¾ " "	63.00

See Telegraph Cords page 114



MISCELLANEOUS RUBBER MATS

232—CUSPIDOR MATS
18 x 18 inches.
Per doz. $12.00

233—PITCHER MATS
Diamond Pattern.
10¼ inches, octagon.
Per doz. $10.50

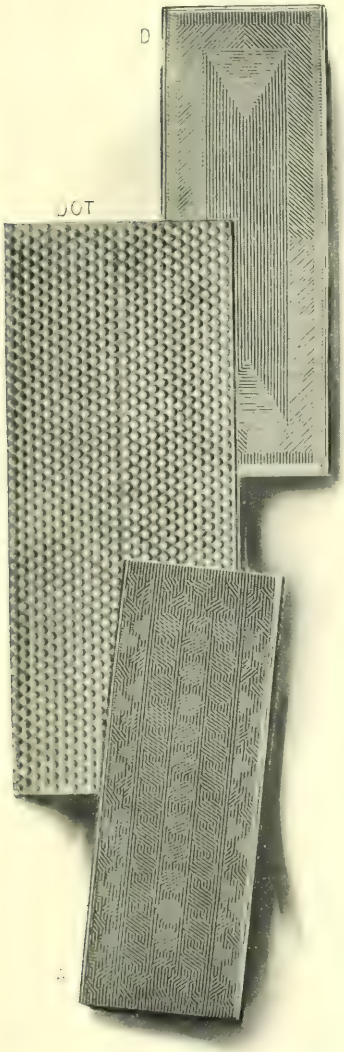
234—COIN MATS, No. 1
9¾ inches.
Per doz. $9.00

235—COIN MATS, No. 2
8 inches.
Per doz. $4.00

236—TUMBLER MATS
5 inches.
Per doz. $2.00

See Telegraph Code page 124

RUBBER STAIR TREADS



MOULDED

Made from a durable rubber stock in three standard patterns. A great protection to stair steps and safeguard against accident.

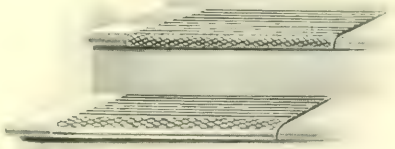
LIST PRICES

Pattern	Size Inches	3/16 inch Thick Per doz.	1/4 inch Thick Per doz.
"A"	7 x 19	$4.00	$6.00
"A"	9 x 48	12.00	18.00
"D"	7 x 19¼	4.25	6.50
"D"	9 x 24	6.50	10.00
"D"	9 x 27	7.25	11.00
"D"	9 x 30	8.00	12.00
"D"	9 x 36	9.75	15.00
"Dot"	9 x 24		10.00
"Dot"	9 x 36		15.00

Also supplied of special dimensions cut from Corrugated Matting.

See page 94

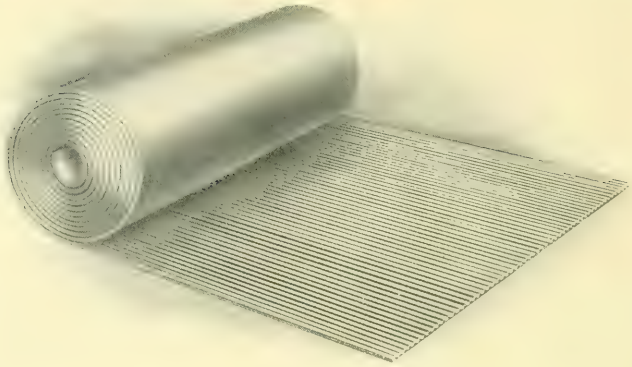
See Telegraph Code page 124



BRASS STAIR NOSINGS AND PLATES

DIAMOND PATTERN

	Per ft.
Nosings, for 1¼ in. step	$ .18
Plates, 3 in. wide, including nosing for 1¼ in. step	.42



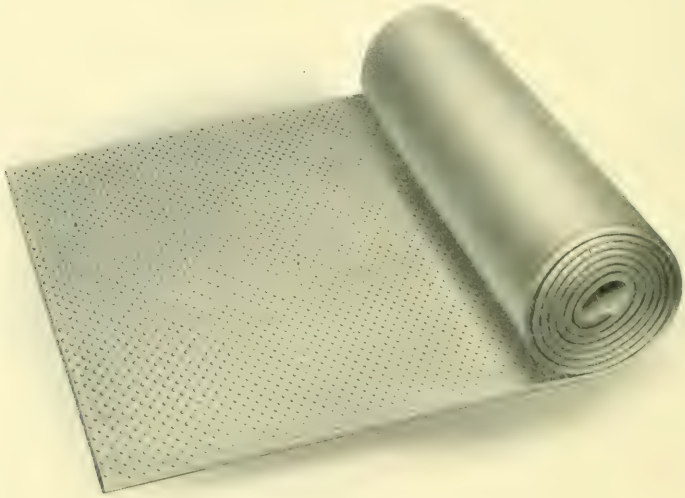
RUBBER MATTING

"Corrugated" and "Dot" or "Hemisphere" Rubber Matting is extensively used in the hallways of Public Buildings, Hotels and Theatres, also on Stair Steps and in Carriage Bottoms. On account of its noiseless, non-slippery, waterproof and lasting qualities it is especially suited to this service.

We carry the Corrugated Rubber Matting in stock in rolls 36 inches wide, but can supply it to order in quantities in any width up to 54 inches.

Dot pattern Rubber Matting we supply to order only in widths up to 36 inches.

LIST PRICE, per lb., Corrugated or Dot . . . . $ .50



See Telegraph Code page 124

HOCKEY PUCKS

While the game of Lacrosse is generally known as Canada's national summer game, Hockey may well be called our national winter game, for in no other country is the sport so enthusiastically followed as in Canada.

We make Hockey Pucks in two sizes which we know as "Regulation" and "Juvenile" and in various qualities to suit the requirements of the trade.

LIST PRICES

"Regulation" size	per gross,	$40.00
"Juvenile" "	"	20.00

SOLID RUBBER VEHICLE TIRES

Rubber Tires for Vehicles of all kinds are now generally recognized to be indispensable to comfort. At first they were regarded as a luxury and by many as a "fad;" now they are almost a necessity.

We were the pioneers in the manufacture of rubber vehicle tires in Canada, and are the largest and most successful makers in the Dominion. We make two general styles, illustrated below, viz., "Solid Rubber" and "Round Cushion," and are equipped to manufacture both styles in continuous as well as the standard short lengths. Ever since its introduction we have been the Exclusive Canadian Manufacturers of the celebrated "Kelly Springfield" Solid Rubber Vehicle Tires.

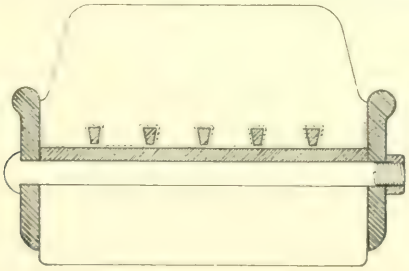
"KELLY-SPRINGFIELD"

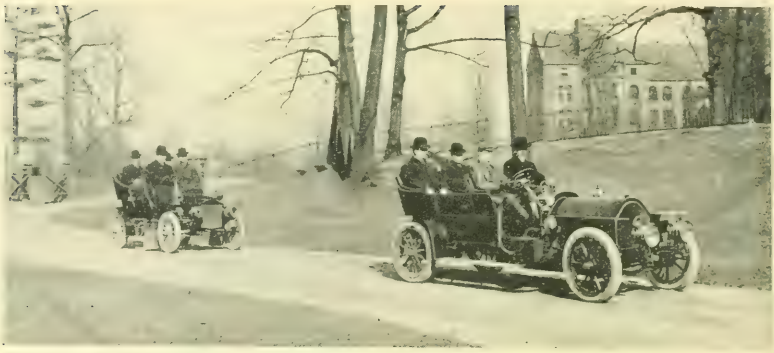
ENDLESS TIRES FOR MOTOR VEHICLES

These tires are moulded endless from the highest grade rubber stock, possessing great wear-resisting properties, and are specially designed for use on heavy cars and trucks. They are exceedingly strong and will stand a lot of rough usage, giving plenty of resiliency.

They are of unique construction. "V" shaped, endless steel rings imbedded in the rubber near the wheel band cause the tire to hug the wheel with unstretchable contact, rendering creeping impossible. To this is added the bolted flange on either side, the whole forming a solid unit of efficiency.

STRONG—RESILIENT—SECURE—DURABLE





"FISK"
DETACHABLE AUTOMOBILE TIRES

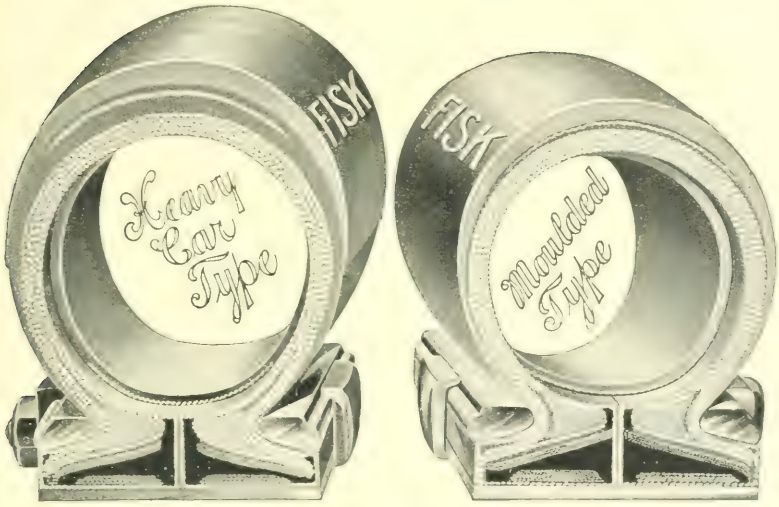
The principle upon which the Fisk Mechanically Fastened Tire is constructed involves a technique so simple that it readily appeals to a discriminating purchaser.

It is clamped and bolted on a flat rim from which the tire can be slipped off like a belt from a pulley. On these flat rims the tire is firmly and securely clamped by a common-sense application of bolt, nut and wedge: eight bolts, eight nuts and two wedges (which here take the form of steel rings).

The beads of the tire cover are wedge-shaped and the rings are rolled to a corresponding shape; these rings when applied are drawn down by the clamping bolts, rendering the tire absolutely immovable. There is no possibility of "rolling" or "creeping" on the rim. The Fisk Tire absolutely cannot fly off whether inflated or not: it can come off only when taken off.

Nearly every motor tire on the market has a large part of the air chamber buried in the rim, where it is of no service whatever. The fundamental principle in equipping an automobile with pneumatic tires is to carry the load on air. A large cushion (air chamber) is essential to comfort. With the Fisk Tire *all* the air space is above the rim, where it should be, as an air cushion.

With the Fisk Tire the inner tube cannot be pinched, for it is stowed and rests in a pocket, as it were, completely surrounded by the outer case. It is the *simplest, safest and best automobile tire made.*



Fisk Automobile Tires are made in two types as illustrated above viz: "Moulded" and "Heavy Car" types.

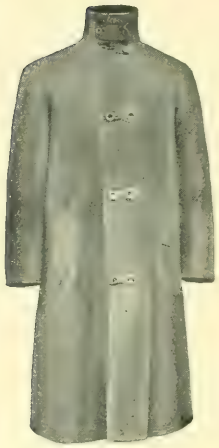
The "Moulded" type is constructed on the principles in general practice and is cured in a mould. The "Heavy Car" type is formed with an extra tread of exceedingly tough rubber over layers of specially strong fabric which tend to prevent puncture and to break the force of blows encountered.

The "Fisk" Tire is the simplest automobile tire made in the method of attachment. A wrench, which is always present in an automobile, is the only tool needed to remove or attach it. No mechanical ability whatever is necessary as it is impossible to wrongly assemble the tire, all parts being interchangeable.

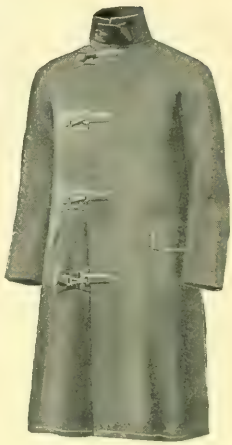
FISK TIRES ARE

1st. Tires that cannot come off from any mishap, whether inflated or deflated.
2d. Tires that may be removed by a few minutes' work, or be repaired "on the road" without waste of time, money, or energy, or compelling the purchase of a new tire.
3d. Tires whose inner tubes cannot be pinched.
4th. Tires that cannot be torn from the rim by the terrific side roll that is so destructive.
5th. Tires that cannot work around the rim or in any way injure the valve or inner tube.

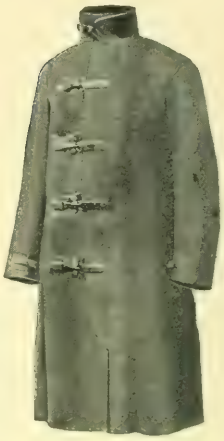
In fact, tires that give satisfaction and are not a travesty on the word.



OFFICER'S



OFFICER'S S. & R.



FIREMAN'S

RUBBER SURFACED CLOTHING

LIST PRICES

Boys' Officers' Coats, on sheeting	$2.40
Men's " " " "	2.60
Men's " " " drill, snaps and rings	4.00
Firemen's Coats, fly fronts, snaps and rings, double coated on sheeting	5.00
" " " drill	5.50
" " " duck	6.00

Above prices on Men's and Firemen's Coats are for sizes 1 to 7 only. Extra charge for each size larger than No. 7, 50 cents per coat.

For coats of longer lengths than standard, extra charge up to 6 inches extra length, $1.00 per coat.

SIZES OF BOYS' COATS

SIZES	00	0	1	2	3	4	5	6
Bust	26	27	28	29	30	31	32	33
Length	32	33	34	35	36	37	38	40

SIZES OF MEN'S COATS

SIZES	1	2	3	4	5	6	7	8
Bust	34	36	38	40	42	44	46	48
Length—Officers'	42	43½	45	46½	48	49	50	51
" —Firemen's	42	43½	45	46	47	47	47	48

MEN'S WASHING APRONS

DOUBLE COATED ON DRILL

Light, per doz.,	$27.00
Medium, "	30.00
Heavy, "	36.00

ARMY AND PONCHO BLANKETS

Made on sheeting with strapped edges and reinforced corners, with grommets. Just the thing for campers' use.

Army blankets,	45 x 72 inches,	each,	$2.00
" "	45 x 66 "	"	1.80
Poncho, "	45 x 72 "	"	2.50

HOSPITAL BED SHEETS

"EMPIRE" BRAND
TRADE MARK

Double coated on sheeting with smooth varnished surface. Reinforced edges and corners with grommets for tying down. The most serviceable and durable bed or camp sheets made.

45 x 72 inches, ... each, $3.00

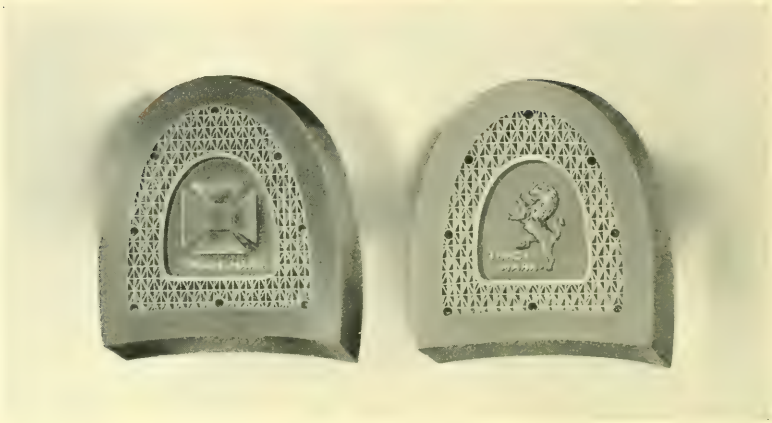
Special sizes made to order.

TARPAULINS AND WAGON COVERS

	Single Coated	Double Coated
Sheeting, per square foot,	$ .12	$ .15
Drill, " "	.15	.19
Duck, " "	.17	.20

ORGAN BELLOWS CLOTH

	36-INCH	48-INCH
Sheeting, dull finish. per yard,	$ .65	$ .90
Drill. " "	.85	1.10



RUBBER HEELS

"MALTESE CROSS" AND "LION" BRANDS

The rapid and steady increase in our business in this line is sufficient proof of the excellence of the goods we are making. With practically no advertising our "Maltese Cross" and "Lion" Heels have on their own merits established a wide reputation for reliability and general satisfaction.

Our "Maltese Cross" Heel is the highest grade heel on the market. It is jet black through and through, rendering it less objectionable in appearance than the gray heels so generally in use. It is of handsome design, and we believe well worthy the name "Black Beauty."

Our "Lion" Heels are made of a gray rubber stock possessing good wear-resisting qualities, and is excellent value as a medium priced heel. We make no attempt to compete in price with the many low-grade heels on the market, preferring to sell reliable goods only.

LIST PRICES

Men's Heels, per doz. pairs	$3.00
Women's Heels, per doz. pairs	2.25

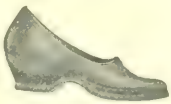
RUBBER FOOTWEAR

"MALTESE CROSS" AND "LION" BRANDS

Although more or less out of place in a catalogue of mechanical goods, our Shoe Department is so important a branch of our business and its products are in such wide demand, both in Canada and abroad, that a brief mention of it should be made.

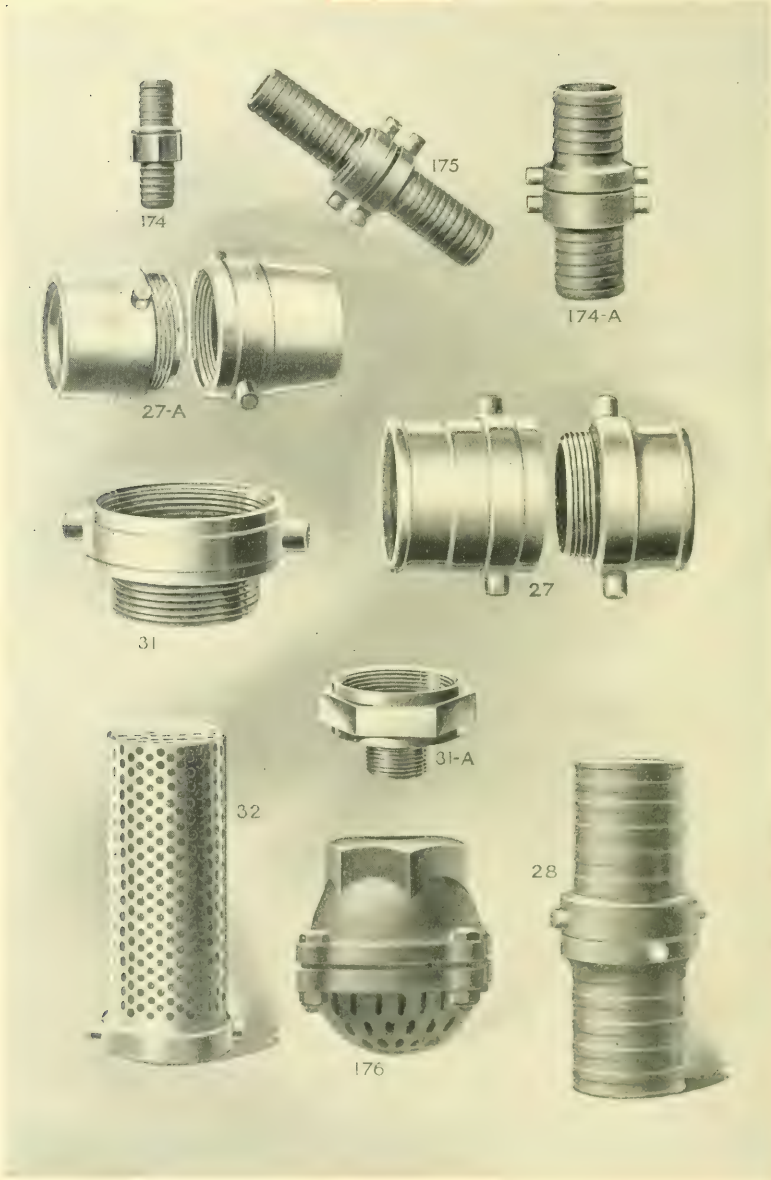
We make over 400 separate and distinct styles, which are the result of a careful study of the general public's ordinary or special requirements. This in itself shows the extent to which "Maltese Cross" Rubbers are used.

There are the Lumberman's "Snag-proof," strong above all things and reinforced at every point; the high Hip Boots for Fishermen, Firemen, etc.; Snow Excluders for both men and women; the old reliable Arctics in various styles; Short Boots of all sorts; women's Gaiters, dainty but strong; Stocking Overs, etc.



Where lightness and style are required, we have the Rain Slippers in a number of patterns: the different kinds of Plain Overs; the Self-acting Rubbers and Clogs; the skeleton Foot-holds, and various rubbers of special lightness. In a class by themselves are the shoes for lacrosse, tennis and other athletic sports.

We claim for the "Maltese Cross" brand that no better rubber shoe can be made anywhere. They are "famous for fit." A "Maltese Cross" rubber is made for every shape, size and width of men's, women's, youths', boys', misses' and children's leather shoes.


174
175
174-A
27-A
27
31
31-A
32
176
28

HOSE COUPLINGS AND FITTINGS

174—GARDEN HOSE SHANK COUPLINGS

½ inch, hose thread . . . . Per doz., $2.40 ¾ inch, hose thread . . . . Per doz., $2.40

174A—WATER HOSE SHANK COUPLINGS

1	inch iron pipe thread . .	Per doz.,	$4.40	2	inch iron pipe thread .	Per doz.,	$24.00
1¼	" " " " .	"	10.00	2½	" " " " .	"	48.00
1½	" " " " .	"	14.00				

28—SUCTION HOSE SHANK COUPLINGS

3	inch, thread to order . .	Per doz.,	$76.00	5	inch, thread to order . .	Per doz.,	$250.00
3½	" " " . .	"	120.00	5½	" " " . .	"	300.00
4	" " " . .	"	150.00	6	" " " . .	"	350.00
4½	" " " .	"	200.00	8	" " " .	"	504.00

175—STEAM HOSE SHANK COUPLINGS

½	inch, iron pipe thread . .	Per doz.,	$4.80	1¼	inch, iron pipe thread .	Per doz.,	$15.00
¾	" " " " .	"	7.80	1½	" " " " .	"	24.00
1	" " " " . .	"	9.60	2	" " " "	"	39.00

27—EXPANSION RING COUPLINGS—WITH RINGS

1	inch, thread to order . .	Per set,	$2.50	3	inch, thread to order . . .	Per set,	$9.00
1¼	" " " . .	"	2.50	3½	" " " . .	"	12.00
1½	" " " . . .	"	3.50	4	" " " . . .	"	15.00
2	" " " . . .	"	4.00	4½	" " " . .	"	18.00
2½	" " " . .	"	5.00	5	" " " . . .	"	21.00

See Telegraph Code page 125

31 and 31A—BRASS REDUCERS—THREADS TO ORDER

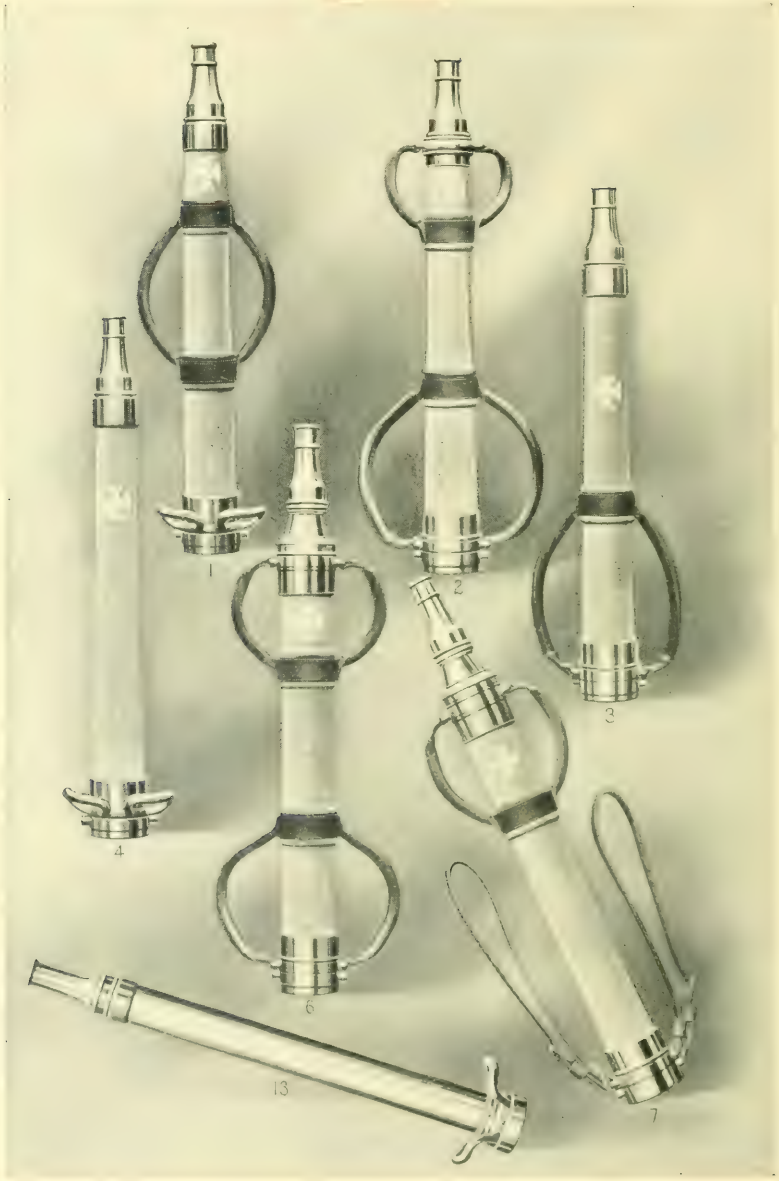
	Diameter	Each		Diameter	Each		Diameter	Each
1	inch to ¾ inch . .	$ .60	2	inch to 1¼ inch . .	$1.50	2½	inch to 1½ inch . .	$2.25
1¼	" " " " .	.85	2	" " 1½ "	1.60	2½	" " 2 "	2.35
1½	" " 1 " .	.95	2½	" " ¾ "	2.10	2½	" " 2¼ "	2.50
2	" " 1 " .	1.25	2½	" " 1 " .	2.10	2½	" " 2½ "	2.50
2	" " 1¼ "	1.25	2½	" " 1¼ " . .	2.25	2½	" double female swivel . . .	4.50

32—SUCTION HOSE STRAINERS—BRASS, HAND MADE

Diameter	Each	Diameter	Each	Diameter	Each
1½ inch	$5.50	3½ inch	$16.00	5½ inch	$28.50
2 "	7.50	4 "	20.00	6 "	32.00
2½ "	10.00	4½ "	22.00		
3 "	12.50	5 "	25.00		

176—SUCTION FOOT VALVES AND STRAINERS

Sizes, inches	1	1¼	1½	2	2½	3	3½	4	5	6
Painted, each . . .	$ .90	$1.05	$1.35	$1.80	$2.60	$3.70	$5.20	$6.60	$8.50	$ 13.00
Galvanized, each . .	1.20	1.50	2.00	2.90	4.00	5.40	7.50	9.50	14.00	20.00


1
2
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13

FLEXIBLE RUBBER PLAY PIPES

"MALTESE CROSS" BRAND

Rubber play pipes have already largely displaced the heavy brass service pipes in the best equipped fire departments. Their many advantages over the old style brass pipes are too well known to make it necessary to mention them here.

We make a specialty of rubber play pipes and claim our "Maltese Cross" carbolized flexible rubber play pipes to be the very best on the market. They combine the greatest strength and durability with the fullest degree of flexibility and lightness. The materials employed in their manufacture are not only the very best in quality, but are also treated by our patent carbolizing process to prevent mildew and rot. They will not grow hard in service. They outlast all others.

Supplied complete with brass and leather fittings as shown in cut. Butt fittings cut with any 2½ inch thread.

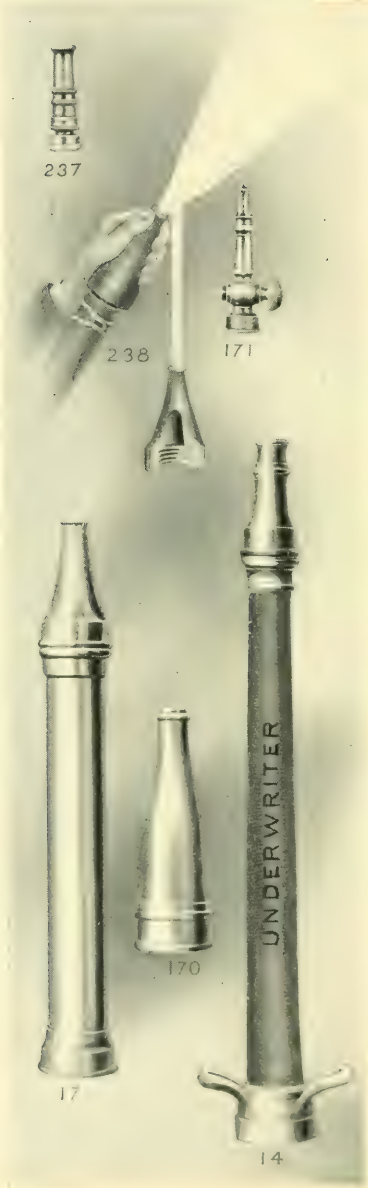
PRICES

Nos. 1 and 3	$20.00
No. 2, with handles as shown in cut or with long leather loop handles on butt if preferred	20.00
No. 4	18.00
No. 6	22.00
No. 7	22.00
Rubber tube without fittings for any style "Maltese Cross" play pipe (specify style wanted)	12.00

BRASS SERVICE PIPES

No. 13, size 2½ in. Length 30 in. With or without brass swivel handles. Screw tip.

Regular, each	$10.00
Heavy, "	12.00



NOZZLES AND PLAY PIPES

171—C. L. E. NOZZLES

Screw Tip

Size	Length	Per doz.
¾ in.	5½ in.	$12.00
1 in.	7 in.	15.00
1¼ in.	9 in.	24.00

237—"GEM" CONTROLLING NOZZLES

Throw either spray or full stream.

½ and ¾ in., per doz. $12.00

238—SQUEEZER NOZZLES

Moulded Rubber

½ and ¾ in., per doz. $7.00

14—"UNDERWRITER" PLAY PIPES

Cord Wound and Painted

Accepted by the Associated Factory Mutual Fire Insurance Co.'s and stamped per their requirements.

2⅝ in., thread to order, each . . . $8.50

17—MILL OR WAREHOUSE PIPE

Size	Length	Per doz.
1 in.	12 in.	$24.00
1¼ in.	12 in.	27.00
1½ in.	15 in.	30.00
2 in.	16 in.	48.00
2½ in.	20 in.	90.00

170—PLAIN BRASS NOZZLES

Size	Length	Per doz.
¾ in	3 in.	$8.00
1 in.	4 in.	10.00
1¼ in.	6 in.	12.00
1½ in.	7 in.	15.00
2 in.	8 in.	27.00
2½ in.	9 in.	48.00

HOSE SPANNERS, BANDS, PLIERS AND MENDERS

46—TABER'S HOSE SPANNERS

Malleable iron, galvanized, per dozen $6.75

239—HOSE COUPLING BOLT BANDS

Cold pressed steel, galvanized.

FOR WATER HOSE

Size Hose Inches	3-PLY Per doz.	4-PLY Per doz.	6-PLY Per doz.
½	$1.00	$1.00	
¾	1.00	1.00	
1	1.50	1.50	
1¼	2.50	2.50	
1½	3.00	3.00	
2	4.00	4.00	
2¼	5.50	5.50	
2½	7.00	7.00	
3		10.00	$10.00

FOR STEAM HOSE

Size Hose Inches	4-PLY Per doz.	5-PLY Per doz.	6-PLY Per doz.
½	$1.00	$1.00	$1.00
¾	1.50	1.50	2.00
1	2.50	2.50	2.50
1¼	3.00	3.00	3.00
1½	3.50	3.50	3.50
2	5.50	5.50	5.50
2¼	7.00	7.00	7.00

FOR SUCTION HOSE

Diameter of Clamp	Per doz.	Diameter of Clamp	per doz.
4¼	$13.75	4¾	$16.75
4½	15.25	5	18.25

240—CALDWELL HOSE BANDS

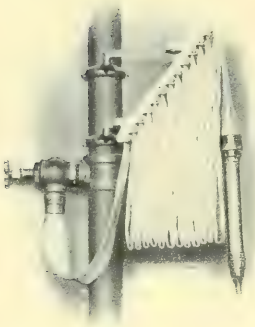
½ inch, per gross . . $4.80
¾ inch, per gross . . 4.80

241—CALDWELL HOSE PLIERS

Per dozen $7.00

242—HOSE MENDERS, GALVANIZED IRON

½ inch, per dozen . . . . . $ .40
¾ inch, per dozen 50



SWINGING HOSE HANGERS

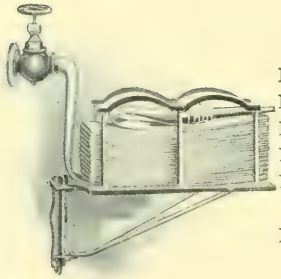
The handiest, strongest and best device made for holding Mill Fire Hose when not in use. Supplied either with wall bracket or pipe clamps to attach to stand pipes.

Made in three sizes and finished in aluminous bronze.

PRICE LIST

No. 1, for 1½ inch and smaller size hose . . $3.60
No. 2, for 2 inch hose 3.60
No. 3, for 2½ inch hose 4.00

If wanted with pipe clamps, state size of stand pipes.



SWINGING HOSE RACKS

Size and Kind	Capacity	Each
No. 0, for 1½ or 2 in., unlined	50 ft.	$2.80
No. 00, for 2½ in., "	50 "	2.80
No. 1, for 1½ or 2 in., "	100 "	3.45
No. 2, for 2½ in., "	100 "	3.75
No. 3, for 1½ or 2 in. "	150 "	3.75
or 2½ in., rubber lined	50 "	3.75
No. 4, for 2½ in., "	50 "	3.75
or 2½ in., unlined	150 "	3.75
No. 5, for 1½ or 2 in., rubber lined	100 "	5.00
No. 6, for 2½ in., "	100 "	5.65

Prices include either wall brackets or pipe clamps. If wanted with pipe clamps state outside diameter of stand pipes.

"JIM DANDY" GARDEN HOSE REELS

Capacity, 100 ft. of ¾ in. hose

We have these reels made to our own special design of better materials and stronger than the ordinary cheap reels. At the low price we offer them, no one using lawn hose can afford to be without one. Will pay for itself in one season's use in saving of hose.

Best lawn hose reel on the market at anything like the cost.

Per dozen $12.00

TABLES
OF
INFORMATION
AND
TELEGRAPH CODE

MENSURATION OF SURFACES AND VOLUMES

Area of triangle = base × ½ perpendicular height.

Circumference of circle = diameter × 3.1416. See table on page 113.

Area of circle = square of diameter × .7854. See table on page 113.

Area of surface of cylinder = circumference × length + area of two ends.

To find diameter of circle having given area: Divide the area by .7854, and extract the square root.

To find the volume of cylinder: Multiply the area of the section in square inches by the length in inches = the volume in cubic inches. Cubic inches divided by 1728 = volume in cubic feet.

Surface of a sphere = square of diameter × 3.1416.

Solidity of a sphere = cube of diameter × .5236.

Area of the base of a pyramid or cone, whether round, square or triangular, multiplied by one-third of its height = the solidity.

WROUGHT IRON WELDED STEAM, GAS AND WATER PIPE

TABLE OF STANDARD DIMENSIONS

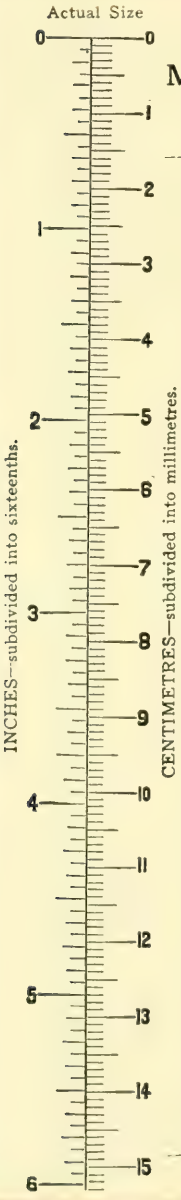
Diameters			Thickness of Wall	Circumferences		Transverse Areas		
Nominal Internal	Actual External	Actual Internal		External	Internal	External	Internal	Metal
Inches	Inches	Inches	Inches	Inches	Inches	Sq. Inches	Sq. Inches	Sq. Inches
⅛	.405	.27	.068	1.272	.848	.129	.0573	.0717
¼	.54	.364	.088	1.696	1.144	.229	.1041	.1249
⅜	.675	.494	.091	2.121	1.552	.358	.1917	.1663
½	.84	.623	.109	2.639	1.957	.554	.3048	.2492
¾	1.05	.824	.113	3.299	2.589	.866	.5333	.3327
1	1.315	1.048	.134	4.131	3.292	1.358	.8626	.4954
1¼	1.66	1.38	.14	5.215	4.335	2.164	1.496	.668
1½	1.9	1.611	.145	5.969	5.061	2.835	2.038	.797
2	2.375	2.067	.154	7.461	6.494	4.43	3.356	1.074
2½	2.875	2.468	.204	9.032	7.753	6.492	4.784	1.708
3	3.5	3.067	.217	10.996	9.636	9.621	7.388	2.243
3½	4.	3.548	.226	12.566	11.146	12.566	9.887	2.679
4	4.5	4.026	.237	14.137	12.648	15.904	12.73	3 174
4½	5.	4.508	.246	15.708	14.162	19.635	15.961	3 674
5	5.563	5.045	.259	17.477	15.849	24.306	19.99	4.316
6	6 625	6.065	.28	20 813	19.054	34.472	28.888	5.584
7	7.625	7.023	.301	23.955	22.063	45.664	38.738	6 926
8	8.625	7.982	.322	27.096	25.076	58.426	50.04	8.386
9	9.625	8.937	.344	30.238	28.076	72.76	62.73	10.03
10	10.75	10.019	.366	33.772	31.477	90.763	78.839	11.924
11	11.75	11.		36.914	34.558	108.434	95.033	13.401
12	12.75	12.		40.055	37.7	127.677	113.098	14.579
13	14.	13.25		43.982	41 626	153.938	137.887	16.051
14	15.	14.25		47.124	44.768	176.715	159.485	17 23
15	16.	15.43		50.26	48.48	201.06	187.04	14.02
16	17.	16.4		53.41	51.52	226.98	211.24	15.74
17	18.	17.32		56.55	54.41	254.47	235.61	18 86

AREAS AND CIRCUMFERENCES OF CIRCLES

IN INCHES FROM 1/64th TO 25

Diameter Inches	Area Square Inches	Circumference Inches	Diameter Inches	Area Square Inches	Circumference Inches
1/64	.000192	.04909	11	95.0334	34.5576
1/32	.000767	.09818	11 1/4	99.4022	35.343
1/16	.003068	.19635	11 1/2	103.8691	36.1284
1/8	.012272	.3927	11 3/4	108.4343	36.9138
3/16	.027612	.589	12	113.098	37.6992
1/4	.049087	.7854	12 1/4	117.859	38.4846
5/16	.076699	.98175	12 1/2	122.719	39.27
3/8	.110447	1.1781	12 3/4	127.677	40.0554
7/16	.15033	1.37445	13	132.733	40.8408
1/2	.19635	1.5708	13 1/4	137.887	41.6262
9/16	.248505	1.76715	13 1/2	143.139	42.4116
5/8	.306796	1.9635	13 3/4	148.49	43.197
11/16	.371224	2.15985	14	153.938	43.9824
3/4	.441787	2.3562	14 1/4	159.485	44.7678
13/16	.518487	2.55255	14 1/2	165.13	45.5532
7/8	.601322	2.7489	14 3/4	170.874	46.3386
15/16	.690292	2.94525	15	176.715	47.124
1	.7854	3.1416	15 1/4	182.655	47.9094
1 1/8	1.2272	3.927	15 1/2	188.692	48.6948
1 1/4	1.7671	4.7124	15 3/4	194.828	49.4802
1 3/8	2.4053	5.4978	16	201.062	50.2656
2	3.1416	6.2832	16 1/4	207.395	51.051
2 1/8	3.9761	7.0686	16 1/2	213.825	51.8364
2 1/4	4.9087	7.854	16 3/4	220.354	52.6218
2 3/8	5.9396	8.6384	17	226.981	53.4072
3	7.0686	9.4248	17 1/4	233.706	54.1926
3 1/8	8.2958	10.2102	17 1/2	240.529	54.978
3 1/4	9.6211	10.9956	17 3/4	247.45	55.7634
3 3/8	11.0447	11.781	18	254.47	56.5488
4	12.5664	12.5664	18 1/4	261.587	57.3342
4 1/8	14.1863	13.3518	18 1/2	268.803	58.1196
4 1/4	15.9043	14.1372	18 3/4	276.117	58.905
4 3/8	17.7206	14.9226	19	283.529	59.6904
5	19.635	15.708	19 1/4	291.04	60.4758
5 1/8	21.6476	16.4934	19 1/2	298.648	61.2612
5 1/4	23.7583	17.2788	19 3/4	306.355	62.0466
5 3/8	25.9673	18.0642	20	314.16	62.832
6	28.2744	18.8496	20 1/4	322.063	63.6174
6 1/8	30.6797	19.635	20 1/2	330.064	64.4028
6 1/4	33.1831	20.4204	20 3/4	338.164	65.1882
6 3/8	35.7848	21.2058	21	346.361	65.9736
7	38.4846	21.9912	21 1/4	354.657	66.759
7 1/8	41.2826	22.7766	21 1/2	363.051	67.5444
7 1/4	44.1787	23.562	21 3/4	371.543	68.3298
7 3/8	47.1731	24.3474	22	380.134	69.1152
8	50.2656	25.1328	22 1/4	388.822	69.9006
8 1/8	53.4563	25.9182	22 1/2	397.609	70.686
8 1/4	56.7451	26.7036	22 3/4	406.494	71.4714
8 3/8	60.1322	27.489	23	415.477	72.2568
9	63.6174	28.2744	23 1/4	424.558	73.0422
9 1/8	67.2008	29.0598	23 1/2	433.737	73.8276
9 1/4	70.8823	29.8452	23 3/4	443.015	74.613
9 3/8	74.6621	30.6306	24	452.39	75.3984
10	78.54	31.416	24 1/4	461.864	76.1838
10 1/8	82.5161	32.2014	24 1/2	471.436	76.9692
10 1/4	86.5903	32.9868	24 3/4	481.107	77.7546
10 3/8	90.7628	33.7722	25	490.875	78.54

Diameter squared × .7854 = Area.
Diameter × 3.1416 = Circumference.
Circumference × .318309 = Diameter.



COMPARISON OF METRIC AND STANDARD SYSTEMS OF WEIGHTS AND MEASURES

DENOMINATION ONE	EQUALS IN	EQUIVALENT
STANDARD	METRIC	
Inch	Centimetres	2.54
Foot	Metres	.3048
Yard	Metres	.9144
Mile	Kilometres	1.6094
Square inch	Square centimetres	6.451
Square foot	Square metres	.0929
Cubic inch	Cubic centimetres	16.39
Cubic foot	Cubic metres	.02832
Cubic yard	Cubic metres	.7646
Pound avoirdupois	Kilogrammes	.4536
Ton of 2240 pounds	Tonnes	1.016
Ton of 2000 pounds	Tonnes	.9072
Quart, dry measure	Litres	1.101
Quart, wine measure	Litres	.9465
Gallon	Litres	3.785
METRIC	STANDARD	
Millimetre	Inches	.0394
Metre	Feet	3.2807
Kilometre	Miles	.6213
Square millimetre	Square inches	.00155
Square metre	Square feet	10.763
Cubic centimetres	Cubic inches	.061
Cubic metre or stere	Cubic feet	35.3105
Cubic metre	Cubic yards	1.3078
Kilogramme	Pounds avoirdupois	2.2047
Tonne	Tons of 2240 pounds	.9843
Tonne	Tons of 2000 pounds	1.1024
Litre (one cubic decimetre)	Cubic inches	61.017
Litre	Quarts, dry measure	.908
Litre	Quarts, wine measure	1.0566

TELEGRAPH CODE

☞ NOTE—For words commencing with letters Ba, Ca, Da, Fa, Ga, Ha, Ja, Ka, La, Ma, Pa and Ra see also page 127.

BELT

	Rubber Belting—see page 118
Bedouin	Thresher Belts
	Grain Elevator Belting—see page 118
	Special Conveyor Belting—see page 118
Beduck	Emery and Sand Belts
Behead	Stitched Rubber Belting
Belgian	Dynamo & High Speed Belting
Belial	Friction Cover Belting
Bemoan	Stitched Canvas Belting
Benison	What kind of belting required
Benzoin	What brand " "
Besought	What width " "
Beware	What ply " "
Bewitch	What length " "

(See also pages 116, 117 and 118)

HOSE

	Air Brake Hose—see page 119
	Air Drill Hose—see page 118
	Brewers' Hose—see page 118
	Chemical Engine Hose—see page 119
Cornucopia	Divers' Hose
Cornuto	Fire Hose—see page 120
Corollary	Garden Hose
Corollate	Oil Hose
	Pneumatic Tool Hose—see page 119
Corolline	Sand Blast Hose
	Steam Hose—see page 118
Coronach	Steam Car-Heating Hose
Coronoid	Suction Hose—see page 121
Corozo	Vinegar Hose
	Water Hose—see page 118
Corporate	What kind of hose required
Corsair	What brand " "
Corsned	What size " "
Corundum	What ply " "
Costume	What quantity " "
Cowslip	Marline Wound Hose
Coxcomb	Wire Wound Hose
Coyote	Woven Cotton Covered Hose

(See also pages 116 to 121)

RAILWAY

Famine	Grand Trunk
Famish	Grand Trunk Pacific
Famous	Canadian Pacific
Fan	Canadian Pacific Lake and Rail
Fantastic	Grand Trunk and Intercolonial
Fandango	Intercolonial
Fanfare	Canadian Northern
Fatimite	Canadian Northern Lake and Rail

SHIP

Forehead	Ship as soon as possible
Foreland	Ship so as to be here before
Foremast	How soon can you ship
Forensic	Expect to ship
Forest	Now ready for shipment
Forsake	Have you shipped
Forswear	Have shipped
Fortress	Will be shipped
Fossil	Will send shipping instructions later
Founder	We are awaiting shipping instructions
Fountain	We are shipping to-day
Fourgon	Could ship about
Foveate	Shall we ship
Fovilla	Can ship
Foyer	Can ship at once
Fracas	Ship by freight
Fraction	Ship by express
Fragile	Was shipped by freight
Fragment	Was shipped by express

EXPRESS

Chicory	Express to me (us)
Chieftain	Express direct to
Chime	Send by first express
China	Send by Dominion Express
Chinese	Send by Canadian Express

(See also under heading "Ship")

ORDER

Encage	Our order
Encamp	Your order
Enchant	Repeat order
Encrust	Have received order
Entail	After receipt of order

QUOTE

Extinct	Quote best price on
Extine	Wire quotation on
Extrude	We quote

See examples in use of code on pages 118, 119 and 127

SIZES AND PLIES FOR BELTING, HOSE, ETC.

Width or Size (inches)	No Ply Specified	2-PLY Girasol	3-PLY Girder	4-PLY Girdle	5-PLY Gire
¼	Girrock	Girth	Girtline	Gisarm	Gise
½	Glabrous	Glacial	Glaciate	Glacier	Glacious
1	Gladiole	Gladiolus	Gladius	Gladness	Gladship
1¼	Glamour	Glance	Gland	Glandage	Glanders
1½	Glassful	Glassily	Glassite	Glassware	Glasswork
1¾	Glaucosis	Glaucus	Glaum	Glave	Glaymore
2	Glebe	Glebeless	Glebosity	Glebous	Gleeful
2¼	Glicke	Glidden	Glide	Gliff	Glike
2½	Gloat	Globard	Globe	Globose	Globular
2¾	Gloppen	Gloria	Gloriole	Gloss	Glossary
3	Glower	Glucina	Glump	Glunch	Glutinate
3½	Glycol	Glycolide	Glyconic	Glyptic	Glyptodon
4	Gnide	Gnomon	Goal	Goat	Goatish
4½	Goff	Golden	Goldfinch	Goldie	Goldsmith
5	Gomer	Gommelin	Gomphosis	Gonad	Gondolier
6	Gorge	Gorgeous	Gorgon	Gorhen	Goring
7	Goshawk	Gosherd	Goslet	Goss	Gossamer
8	Gothamite	Gothic	Goudron	Gouge	Gouland
9	Gowd	Gowdie	Gowk	Gown	Gozzard
10	Gradate	Gradation	Gradatory	Gradient	Gradino
11	Graip	Graith	Grakle	Grallic	Gralline
12	Gramme	Grampus	Granary	Grandam	Grandee
13	Grange	Graniform	Granilla	Granitoid	Grannam
14	Grapery	Grapeshot	Grapevine	Graphic	Graphite
15	Grassation	Grate	Grateful	Gratified	Gratify
16	Graven	Gravic	Gravitate	Gravity	Graze
17	Greenhorn	Gregal	Gregarious	Grego	Gremial
18	Grid	Gridelin	Griego	Griff	Griffon
19	Grime	Grimly	Grind	Grindelia	Grindle
20	Griskin	Grison	Grist	Gristly	Gristmill
22	Grizzle	Grizzly	Groats	Groin	Gromill
24	Ground	Group	Grout	Groutnal	Grove
26	Grum	Grumble	Grumly	Grumose	Grumpy
28	Guacho	Guanaco	Guanin	Guara	Guarantor
30	Guest	Guffaw	Guggle	Guige	Guilder
32	Gula	Gulf	Gull	Gully	Gulp
34	Gunwale	Gurgoyle	Gurnard	Gusher	Gust
36	Gynander	Gynarchy	Gypsum	Gyral	Gyre
38	Gyrostat	Gyte	Habeas	Habendum	Haberdash
40	Habitual	Habituate	Habitude	Hackle	Hackney
42	Halibut	Halicove	Halidom	Halite	Halma
44	Hamper	Hamule	Hance	Hand	Handicap
46	Hap	Harangue	Harass	Harbinger	Harbor
48	Harmony	Harpoon	Harrier	Harrow	Hartford
50	Hatter	Hauberk	Hamet	Haven	Haversack
52	Hazzard	Haze	Headache	Headlight	Headlong
54	Hectic	Hectogram	Hector	Hedgehog	Hedonic
56	Helicon	Helio	Helioscope	Heliostat	Heliotrope
58	Helve	Helvetic	Helvine	Hem	Hemal
60	Hemisphere	Hemitone	Hemmel	Hemp	Hemuse
62	Herb	Hercules	Heresy	Hermit	Heron
64	Hetero	Heterosis	Hetman	Hexad	Hexagon
66	Hieron	Highland	Highway	Hilarious	Hilarity
68	Hippolith	Hireling	Hirsute	Hirudine	Hirudo
70	Historian	History	Histrion	Hitch	Hive
72	Hoarse	Hoarseness	Hoary	Hoax	Hoaxin

SIZES AND PLIES FOR BELTING, HOSE, ETC.

Width or Size (Inches)	6-PLY Girkin	7-PLY Girlhood	8-PLY Girlish	9-PLY Girlond	10-PLY Girondist
½	Gittern	Gizzard	Glabella	Glabrate	Glabrity
¾	Glacis	Glade	Gladful	Gladiate	Gladiator
1	Gladsome	Gladstone	Gladwyn	Glaive	Glama
1¼	Glandular	Glandule	Glandulose	Glans	Glaring
1½	Glasynge	Glauber	Glauberite	Glaucine	Glaucoma
1¾	Glaze	Glazier	Glead	Gleam	Gleaner
2	Gleek	Gleeman	Glenoid	Glib	Glibbery
2¼	Glimmer	Glimpse	Glitter	Gloam	Gloar
2½	Globulite	Globulous	Glomerate	Glonoin	Gloom
2¾	Glossata	Glossic	Glottal	Glove	Glow
3	Glutton	Glycerate	Glyceride	Glycerole	Glycogen
3½	Glyster	Gnash	Gnathite	Gnathonic	Gnatling
4	Goatskin	Gobble	Gocart	Godroon	Godwit
4½	Golet	Golfer	Goliard	Gomarite	Gombo
5	Gonfalon	Goober	Goracco	Gord	Gordian
6	Gorm	Gormandize	Goroon	Gorse	Gory
7	Gossat	Gossip	Gossoon	Gote	Gothamist
8	Gour	Gourami	Gove	Government	Gowan
9	Graal	Grabber	Grace	Graceless	Grackle
10	Graduate	Gradus	Graff	Graham	Grail
11	Gramercy	Grammar	Grammarian	Grammates	Grammatic
12	Grandeur	Grandific	Grandiose	Grandity	Grane
13	Grantee	Granular	Granulate	Granule	Granulose
14	Grapnel	Grapple	Grapsoid	Graptolite	Grapy
15	Grating	Gratis	Gratuitous	Gratuity	Gratulate
16	Grebe	Grecism	Gree	Greedy	Greek
17	Grenadier	Grenadine	Grenado	Gresorial	Gribble
18	Grig	Grillade	Grilly	Grilse	Grimalkin
19	Grinner	Grint	Gripsack	Gris	Grisette
20	Grit	Gritrock	Gritty	Grize	Grizelin
22	Groud	Grooper	Groove	Grope	Grosbeak
24	Growl	Grubber	Grucche	Grudge	Gruff
26	Grundel	Grutch	Gryde	Gryphon	Grysbok
28	Guardian	Guardship	Gubernate	Gueber	Guerite
30	Guillemet	Guillotine	Guipure	Guise	Guitar
32	Gump	Guna	Gunshot	Gunsmith	Gunster
34	Gutter	Guttural	Guzzle	Gymnal	Gymnic
36	Gyrodus	Gyroma	Gyron	Gyroscope	Gyrose
38	Habile	Habilitate	Hability	Habitant	Habitation
40	Haffle	Haggard	Haggle	Hake	Halcyon
42	Halse	Halter	Halyard	Hamite	Hammer
44	Handiron	Handle	Hank	Hansard	Hanse
46	Hardhead	Harlequin	Harlock	Harmonic	Harmonist
48	Hartshorn	Harvest	Haslet	Hatch	Hatchet
50	Havildar	Havoc	Hawkeye	Hawser	Hayfork
52	Health	Hearth	Heather	Hebraist	Hebrew
54	Hegemony	Heifer	Heirloom	Helena	Heliac
56	Helium	Helix	Hellenic	Helm	Help
58	Hematic	Hematite	Hemin	Hemipter	Hemisect
60	Hepatica	Heptad	Heptagon	Heptane	Herald
62	Herpetic	Hesper	Hessite	Hestern	Hetchel
64	Hexapod	Hexine	Hibernal	Hibiseus	Hidalgo
66	Hile	Hindoo	Hinge	Hippocras	Hippodrome
68	Hispaine	Hispid	Histogeny	Histoid	Histolgic
70	Hiveless	Hoard	Hoarding	Hoarfrost	Hoarhound
72	Hobbist	Hobble	Hobby	Hobgoblin	Hobnail

BRANDS OF BELTING, HOSE, ETC.

BRAND	Hobson—Rubber Belting					Inductor—Rubber Hose			
	No Goods Specified	Regular Hovel	Special Elevator Idol	Special Conveyor Impeach		Water Infaust	Steam Instinct	Air Drill Interim	Brewers' Inundate
				1/8 in. face Impostor	1/8 in. face Indigo				
"Aurora"						Infeeble			
"Beaver"	Hock	Howdah							
"Cable"	Hod					Infile			
"Crown"	Hoful			Incense	Indogen				
"Extra Strong"	Hogmanay		Image						
"King"	Hoit		Impale			Ingate	Instructor		
"Kinkproof"	Hoker					Ingle			
"Leader"	Holland	Howlet				Ingot			
"Lion"	Homage	Hulk				Ingraft	Intact	Interlude	Ionic
"Maltese Cross"	Homer	Humid				Inhume	Integral	Intermit	Irenic
"Monarch"	Homespun	Hunch					Intellect	Introvert	
"Multiple" (Friction Cover)	Honest	Hurdle							
"Planet"	Horizon	Hyena				Inkhorn			
"Red Strip"	Hornbeam	Ibex							
"Special Railway"	Horny					Inroad	Interdict		
"Sun"	Hotspur					Insheathe			

EXAMPLES IN THE USE OF OUR PRIVATE TELEGRAPH CODE

Per your quotation mavitrina vocabulate forehead wedding vocagomen growl humid. Fracas fan

Per your quotation October 28th 1906 ship as soon as possible 135 12 feet 24-inch 6-ply Maltese Cross brand regular rubber belting Ship by freight Canadian Pacific Railway Lake and Rail.

Foreland haviscum vocabrade whirlwind warwick gyroma indogen. Fracas fantastic.

Ship so as to be here before June 19th 1907 967 feet 36-inch 7-ply Crown brand special conveyor rubber belting 1/8 inch face. Ship by freight Grand Trunk and Intercolonial Railways.

Foremast entail wimple warden introvert gladness coyote stragulum.

How soon can you ship after receipt of order 2750 feet Monarch brand air drill hose 1-inch 4-ply woven cotton covered; long shank couplings attached?

Jabber AIR BRAKE HOSE

Internal Diam. (inches)	No Ply or Length Specified	4 PLY Jingo	5 PLY Junco	4 PLY x 22 INCH Kangaroo	IN LENGTHS OF
1	Jacinth	Jocular	Jungle	Kava	22 inches Kestrel
1 1/16	Jackal	Jolter	Juniper	Kayak	24 " Ketchup
1 1/8	Jamb	Joust	Junto	Keckle	25 " Ketonic
1 3/4	Jargon	Juba	Jurat	Kelp	30 " Kettle
1 7/16	Jerk	Jugal	Jutty	Kempt	36 " Keyhole
1 1/2	Jettison	Juggle	Kaffir	Kernel	50 feet Kibble
1 5/8	Jiffy	Julip	Kaiser	Kersey	

Khaya PNEUMATIC TOOL HOSE

1/8 inch Kickapoo 1/4 inch Kidnap 1/2 inch Kiln 3/4 inch Knag

Knoll CHEMICAL ENGINE HOSE

	No Size Specified	1 INCH x 4-PLY Knout	1 INCH x 4 PLY Kohinoor	1 1/4 INCH x 4 PLY Korin
"Maltese Cross" Brand	Koulan	Kreel	Krone	Krupp
"Lion" Brand	Kurd	Kutch	Labent	Lacquer

EXAMPLES IN THE USE OF OUR PRIVATE TELEGRAPH CODE

Book encage woden welldread votary for windward kernel whalebone jolter kibble as quoted lavitriol vocabulate. Foremast part? Fossil.

Book our order 25239 for 4500 pieces Air Brake Hose 1 1/8 inch x 4 ply x 22 inch 450 feet Air Brake Hose 1 1/16 inch x 4 ply in lengths of 50 feet, as quoted September 29th 1906. How soon can you ship part? Will send shipping instructions later.

Extinct whaler krone straightly. Foremast entail.

Quote best price on 500 feet Maltese Cross brand Chemical Engine Hose 1 inch x 4 ply, expansion rung couplings attached. How soon can you ship after receipt of order?

Ladrone—RUBBER FIRE HOSE

BRAND	No Size Specified	2-INCH Lagoon	2½-INCH Lambert	3-INCH Lascar	3½-INCH Leafy
"Maltese Cross"	Lection	Ledgy	Legion	Leper	Liana
"Crescent"	Libra	Ligneous	Limn	Ling	Loadstone
"Beaver"	Locker	Logger	Loon	Loretto	Lubber

Luddite—COTTON RUBBER LINED FIRE HOSE

BRAND	No Size Specified	2-INCH Merriment	2½-INCH Misdeed	3-INCH Naive	3½-INCH Nephrite
"Eureka," solid woven	Luff		Miser	Napery	Nero
"Paragon," " "	Luna	Meteor	Moat	Narcotic	
"Red Cross," " "	Macaw	Mica	Mogul	Narwhal	
"Peerless," Jacket	Madcap	Milan	Mohawk	Nautical	Nestor
"Surprise," "	Magenta		Moilah		
"New Peerless," "	Mahdi		Mongolian		
"New Surprise," "	Malabar		Mugwump		
"Monitor," "	Median	Mimic	Mummer	Neap	Niche
"Premier," "	Melado	Minuet	Mural	Negress	Nihilist
"Coronet," 1-ply	Memnon		Murky		
"Jubilee," " knitted	Meridian		Muskrat		

Nisan—UNDERWRITERS' MILL FIRE HOSE COTTON RUBBER LINED

BRAND	No Size Specified	1⅝-INCH Nitrol	2¼-INCH Niveous	2⅝-INCH Nodous
"Guttaperch"	Nonce	Nopal	Nostrum	Notal

Nubian—COTTON RUBBER LINED MILL FIRE HOSE

Internal Diameter (inches)	No Brand Specified	"Eureka" Mill Brand Nucleus	"Trojan" Brand Nugget	"Pioneer" Brand Nutlet	"Protector" Brand Nyula
1¼	Oaken	Ocean	Ogre	Oilskin	Olympic
1½	Omelet	Opaque	Opelet	Operator	Opium
2	Optical	Opulent	Orang	Oratory	Orchis
2¼	Organic	Orgy	Oriental	Orion	Orkney
2½	Orpheus	Osmund	Outskirt	Ovation	Oxalic

Pacific—LINEN FIRE HOSE, UNLINED

Internal Diameter (inches)	No Brand Specified	"Crown" Brand Best Underwriters' Linen Paddock	"Victor" Brand Red and Blue Stripe Paganism
1	Pageant	Palace	Palanquin
1¼	Palatial	Paling	Pallid
1½	Palmy	Panoply	Pantheon
2	Pappoose	Paramount	Parquette
2½	Pastor	Patrol	Pauper

Penultima—PLAIN SPIRAL SUCTION HOSE

Penumbra—On Steel Wire. **Penurious**—On Brass Wire.

Internal Diam.	No Brand Specified	"Maltese Cross" Pew	"Lion" Phonal	"King" Photopsy
	Penwiper	Peytrel	Phonation	Photoscope
	Peon	Petzizoid	Phonetism	Phototype
	Peonage	Phacoid	Phonetize	Phrasal
	Peonism	Phacops	Phonic	Phrenology
	Peopler	Phaeton	Phonogram	Physician
2	Pepastic	Phalanger	Phonograph	Physicist
	Peperine	Phallic	Phonolite	Physiology
	Peplis	Phallism	Phonology	Physnomy
3	Peptic	Phallus	Pnonometer	Physograde
	Peptogen	Phane	Phonoscope	Physopod
4	Peptone	Phanerite	Phonotype	Phytoid
	Peptonize	Phantasmal	Phosgene	Pianist
5	Peptonoid	Phantastic	Phospham	Piazza
	Peract	Phantasy	Phosphene	Pica
	Peracute	Phantom	Phosphide	Picamar
	Peragrate	Pharaoh	Phosphor	Picapare
7	Percale	Pharisaic	Photic	Picard
	Percheron	Pharmacist	Photodrome	Picaroon
8	Percursory	Pharmacon	Photogen	Piccadil
	Petunia	Pharmacy	Photogram	Piccage
10	Petworth	Phasma	Photology	Piciform
12	Petzite	Phasmid	Photome	Picket

Pickle—SMOOTH BORE SUCTION HOSE

Internal Diam.	No Brand Specified	"Maltese Cross" Pinaster	"Lion" Pittance	"King" Plasmatic
	Picnic	Pincers	Pivot	Plasmator
1	Picoline	Pinch	Placate	Plasmic
	Picrate	Pinder	Placidity	Plasson
	Picrolite	Pindal	Placoid	Plaster
	Picromel	Pinery	Plaid	Plastide
2	Pictorial	Pinfish	Planary	Plastron
	Piebald	Pingle	Plancher	Plat
	Pigmy	Pink	Planetary	Platform
3	Pilaster	Pintado	Planetic	Platinize
	Pilcrow	Pintail	Plangent	Platinode
4	Pile	Pintos	Planiform	Platinous
	Pilement	Pipage	Planometer	Platitude
5	Piller	Piper	Planorbis	Platometer
	Piliform	Pipestem	Plant	Platonize
6	Pillar	Pipette	Plantal	Platoon
	Pillaret	Pipkin	Planticle	Platter
7	Pillion	Pirameter	Plantlet	Platypod
	Pilot	Pirate	Plantule	Platypus
8	Pilular	Piscator	Planula	Plaudit
9	Pimento	Piston	Plash	Playful
10	Pimple	Pitfall	Plashoot	Playmate
12	Pinacoid	Pittacal	Plasm	Plaza

Pleasure Ends of Suction Hose recessed.

Plebian—MISCELLANEOUS SUCTION HOSE

Internal Diameter	Agricultural Suction Hose Pledget		Hard Rubber Suction Hose Pluck	
	"Leader" Brand Plenary	"Eagle" Brand Plethron	"Lion" Brand Pluff	"King" Brand Pluvial
			Plug	Pocket
			Plumb	Podder
			Plumber	Poetry
1			Plunder	
	Plenicorn	Plevin	Plunge	
	Plenish	Plexiform	Plunket	
	Plenitude	Plexture	Plutocrat	
2	Plerome	Plexus	Plutonian	
	Plesh	Plight	Plutus	
	Plethora	Plough		

Suction Hose—see page 115

Poggy—SHEET PACKING

Thickness (inches)	RUBBER									Plumbago	
	"Redstone" Pointrel	"Bluestone" Poisure	"Blackstone" Pokal	"Aurora" Polack	"Pure Gum" Polarity	Cloth Insertion, Plain Polarize	Cloth One Side Polemic	Cloth Both Sides Polenta	Wire Insertion Polity	Plain Polyfoil
1/64						Polyglot	Polymer			
1/32	Polypode	Polypus	Pomona	Pompano	Pompatic	Pompet	Pompire	Pompon		
1/16	Pongee	Pongo	Poniard	Pontage	Pontile	Pontoon	Popgun	Poppy	Porcelain	Porcupine
3/32	Porotic	Porpita	Porridge	Portage	Portal	Portico	Possum	Postilion	Postlude	Postulate
1/8	Postural	Potassic	Prairie	Preamble	Prebend	Precept	Precinct	Precursor	Predorsal	Prelate
5/32	Prelector	Prelude	Prelumbar	Premolar	Premorse	Prender	Prenomen	Prenostic		
3/16	Prepostor	Prickle	Pridian	Primero	Primine	Primity	Primula	Prince		
1/4	Princess	Priory	Prism	Prismatic	Prison	Privado	Privateer	Probang		

Razure—MISCELLANEOUS RUBBER PACKINGS

Size (inches)	"Sun" Spiral Razzia	"Bluvic" Spiral Razzule	Round Duck Reacher	Square Duck Plain React	Square Duck Rubber Back Reaction	Hydraulic Square Reactive	Pure Gum Square Readable	Pure Gum Round Cord Readept	Victoria Round Readeption
3/16	Reader	Reagent	Realm	Ream	Recant	Receptary	Recital	Recluse	Recreant
1/4	Recruit	Rectangle	Rector	Redan	Redeye	Redfish	Redhead	Redoubt	Redwing
5/16	Redwisen	Redwist	Redwite	Redwivel	Redwobe	Redworm	Redwold	Redworst	Redwove
3/8	Redwood	Reek	Reflex	Refract	Regatta	Regent	Regimen	Relict	Religion
7/16	Religue	Relish	Reload	Relocate	Relucent	Remand	Remast	Remeve	Remise
1/2	Remorse	Renard	Renegade	Replica	Reprieve	Reptile	Resin	Retinue	Retort
9/16	Retoss	Retract	Retraxit	Retreat	Retrench	Retribute	Retrieve	Retrovert	Retrude
5/8	Reverence	Revery	Revolver	Reynard	Rhapsody	Rheostat	Rhetoric	Rhinoceros	Rhubarb
11/16	Rhumb	Rhusma	Rhyme	Rhymic	Rhyolite	Rhythm	Rhythmic	Rhythmus	Rhytina
3/4	Ribald	Ribbing	Ribbon	Rice	Rickets	Riddler	Rifle	Rind	Ringlet
13/16	Ringman	Ringsail	Ringtoss	Rinker	Riot	Rioter	Riotous	Riotry	Riparian
7/8	Ripen	Ripper	Ripple	Ritual	Roach	Roam	Roar	Robber	Robin
1	Rocket	Rocky	Rodent	Roebuck	Roman	Romantic	Romp	Rook	Roost
1 1/16	Rosary	Rocate	Rosette	Rostrum	Rouge	Rought	Roulette	Rout	Royalty
1 1/4	Rubicon	Rubiform	Rubric	Rudder	Ruff	Rugged	Rumble	Runner	Russia
1 3/8	Sabre	Sabine	Sabot	Sacristan	Saffron	Sagimore	Sago	Saint	Salad
1 1/2	Salina	Salivate	Sally	Salmon	Saloon	Salsify	Salt	Salute	Salvo

Samaritan RUBBER TUBING

Internal Diameter (inches)	Sambo White, Corrugated			Sampan Cloth Insertion		Draught Tubing
	Light Sanctity	Heavy Sanctum	Extra Heavy Sandal	Light Sandy	Heavy Sanguine	Sanitary
$\frac{1}{8}$	Screech	Scribe	Scrip	Scroll	Scrub	Scruple
$\frac{3}{16}$	Scullion	Scurvy	Seadog	Seagull	Sealer	Seaman
$\frac{1}{4}$	Seasalt	Secede	Secular	Sedan	Sedative	Sedition
$\frac{5}{16}$	Segment	Seine	Selenite	Semaphore	Senate	Senior
$\frac{3}{8}$	Sepia	Seraglio	Sergeant	Sermon	Serpent	Serrate
$\frac{7}{16}$	Serum	Servitor	Setter	Sewer	Sextant	
$\frac{1}{2}$	Shad	Shagreen	Shaker	Shallop	Shampoo	
$\frac{9}{16}$	Shark	Shaver	Shawl	Shear	Sheath	
1	Sheldrake	Sherbet	Sherry	Shingle	Shinney	

Shire CLOSET CONNECTIONS

Sizes (inches)	Feather Edge Washers Shirk	Spud Connections Shoddy	Cup Connections Shone	Elbow Connections Sinapic	Conical Connections Sinigrin
$1\frac{1}{4}$	Shirley	Shoder	Silica	Sinew	Sinner
$1\frac{1}{2}$	Shiver	Shog	Silvan		Sirdar
2	Shoad	Shogun	Simoon		Siredon

Siren FLOOR FLANGES

Sirenale Pattern No. 1 Sirenas Pattern No. 2 Sirene Pattern No. 3

Sirener MALTESE CROSS INTERLOCKING RUBBER TILING

Sirenerate Color of Tiles

	No Color Specified	White Sirenest	Red Sirenely	Green Sirenia	Blue Sirenial	Buff Sirenially	Chocolate Sirenic	Black Sirenical	Slate Sirenically
Male Tiles	Sirenicate	Sirenize	Sirenizing	Siriasis	Siriasiso	Sirius	Siriusly	Sirkeer	Sirkeeric
Female Tiles	Sirkeerly	Sirloin	Sirloinal	Sirloiner	Sirname	Sirnamic	Sirneal	Sirnez	Sirnove
Equal Assortment Male and Female	Siroc	Sirocal	Sirocate	Sirocic	Sirocco	Siroccol	Sirrah	Sirt	Sirtab

Sirtam—RUBBER MATTING

KIND	No Thickness Specified	3/32 in. Thick Sirtay	1/8 in. Thick Sirtot	3/16 in. Thick Siruccor	1/4 in. Thick Sirude
Corrugated Pattern	Sirumic	Sirup	Sister	Skate	Skeleton
Dot Pattern	Skelp	Skelter	Skeptic	Skerry	Sketcher

Skewer—PERFORATED RUBBER MATS

Thichness (inches)	No Brand Specified	"MalteseCross" Brand Skid	"Crescent" Brand Skiff	"Lion" Brand Skirmish	"Leader" Brand Skirr
1/8	Skirret	Skirrhus	Skirole	Skirt	Skirting
3/16	Skit	Skittern	Skittish	Skittishly	Skittle
1/4	Skittledog	Skittule	Skitty	Skive	Skively
5/16	Skivern	Skiving	Sklayre	Sklere	Skleric
3/8	Sklerical	Skolecite	Skonce	Skonceme	Skoncite
7/16	Skoncod	Skoncos	Skopter	Skopterite	Skorode
1/2	Skorodite	Skonde	Skout	Skouting	Skowitz
9/16	Skreen	Skrike	Skrimmage	Skrimp	Skringe

Skulk—MOULDED RUBBER MATS

Skull	Pitcher Mats, Octagon	Slave	Diamond Door Mats, No. 11
Skylark	Coin Mats, No. 1	Sledge	" " " No. 12
Slake	" " No. 2	Sleep	" " " No. 3
Slang	Cuspidor Mats, 18 in. x 18 in.	Sling	" " " No. 6
Slash	Tumbler Mats	Slogan	" " " No. 7
Slate	Barbers' Chair Mats, 3/32 in. thick	Sloop	Corrugated Door Mats, Patern A
Slattern	" " " 1/8 " "	Sloven	" " " " D

Slovenly—RUBBER STAIR TREADS MOULDED

PATTERN	No Size Specified	Size (inches)	3/32 inch Thick Smash	1/8 inch Thick Smirk
"A"	Sluggish	7 x 19	Smatter	Smite
"A"	Sluice	9 x 48	Smear	Smock
"D"	Slum	7 x 19 3/4	Smeath	Smolder
"D"	Slumbrous	9 x 24	Smeller	Smote
"D"	Slump	9 x 27	Smelt	Smother
"D"	Slurred	9 x 30	Smerk	Smudge
"D"	Slush	9 x 36	Smicker	Smuggle
"Dot"	Smallpox	9 x 24	Smile	Snaffle
"Dot"	Smarten	9 x 36	Smirch	Snag

Snagged—RUBBER STAIR TREADS CUT FROM CORRUGATED MATTING

Sneeze	From Corrugated Matting 3/32 inch thick
Snipe	" " " 1/8 " "
Snore	" " " 3/16 " "
Snuff	" " " 1/4 " "

Snuffle — RUBBER VALVE AND SPRING STOCKS

Snug=Rubber Valves **Snuggle**=Rubber Valve Gum in Sheets **Soak**=Rubber Springs

Soap	Stock No.	8	
Social	" "	9	
Socket	" "	10	
Soda	" "	10F	
Soiree	" "	11	
Sojourn	" "	96	
Soke	" "	97	
Solace	" "	318	
Solano	" "	409	
Solar	" "	412	
Solder	" "	415	
Solo	" "	430	
Sombre	" "	440	medium
Sonata	" "	440	hard
Songster	" "	440	very hard
Sonnet	" "	441	
Sonorous	Stock No.	490	
Soot	" "	492	
Sorbent	" "	605	
Sorrel	" "	606	
Soup	" "	620	
Souple	" "	654	
Soupleness	" "	874	
Soupy	" "	875	
Sour	" "	900	
Sourable	" "	913	

Steerless — PNEUMATIC GASKETS

	No Size Specified	¼ inch Steersman	⅜ inch Steersmate	½ inch Steeving	⅝ inch Steg	¾ inch Steganopod
Bluestone	Stegnosis	Stegnotic	Stella	Sterile	Steward	Stibic
Redstone	Stibnite	Sticcado	Sticker	Stickle	Stifle	Stigma

Stigmatist RUBBER GASKETS AND RINGS

Stiletto	Fibrous Gaskets	Stoker	Pure Gum Rings
Stockade	Cloth Insertion Gaskets	Stolid	Fruit Jar Rings
Stocker	"Bluestone" Flat Rim Gaskets	Stork	" " " Quarts
Stocking	"Redstone" " " "	Straggler	" " " Pints
Stoic	Pure Gum Gaskets		

Stragglese — HOSE COUPLINGS

Straggling	Shank Couplings
Stragglore	" " attached
Straggmist	Long Shank Couplings
Stragulum	" " " attached
Straighten	Expansion Ring Couplings
Straightly	" " " attached

Straik — THREADS ON COUPLINGS

Straikal	Garden Hose Thread
Straikame	Standard Iron Pipe Thread
Straikase	As used by the Corporation of
Straikon	Like sample sent

DISCOUNTS

Strain—Less discount of **Strand**—Discount for cash

Stranger	1/4%	Tennis	30/10/5%	Tunker	55/10/10%
Strangle	1/2%	Terrapin	30/10/5.5%	Turkey	55/10/10/5%
Strap	3/4%	Terrier	30/10/10%	Turnip	60%
Strata	1%	Testator	30/10/10/5%	Turnpike	60/5%
Stratagem	1 1/2%	Teutonic	33 1/3%	Turquois	60/5/5%
Strategist	2%	Theatre	33 1/3/5%	Turtle	60/10%
Strategy	2 1/2%	Thicket	33 1/3/5/5%	Tussock	60/10/5%
Stratify	3%	Thimble	*33 1/3/10%	Typhoon	60/10/5/5%
Stray	4%	Thirst	33 1/3/10/5%	Typify	60/10/10%
Tabby	5%	Thirster	33 1/3/10/5.5%	Tyrant	60/10/10/5%
Tabernacle	5/2 1/2%	Thirstily	33 1/3/10/10%	Umber	65%
Tabid	5/5%	Thirstle	33 1/3/10/10/5%	Unicorn	65/5%
Tablature	6%	Thistle	35%	Urchin	65/5/5%
Table	7%	Thorax	35/5%	Utensil	65/10%
Tableau	7 1/2%	Thrill	35/5/5%	Utopia	65/10/5%
Tablet	7 1/2/5%	Throne	35/10%	Vagabond	65/10/5/5%
Taboo	7 1/2/5/2 1/2%	Thrush	35/10/5%	Vagrant	65/10/10%
Tabular	8%	Thud	35/10/5/5%	Valentine	65/10/10/5%
Tacit	9%	Thunder	35/10/10%	Valerian	70%
Tadpole	10%	Tiger	35/10/10/5%	Vampire	70/5%
Taffeta	10/2 1/2%	Timber	40%	Vandal	70/5/5%
Taffy	10/5%	Tinsel	40/5%	Vane	70/10%
Taglia	10/5/2 1/2%	Tipsy	40/5/5%	Vanilla	70/10/5%
Tailor	10/10%	Toad	40/10%	Vatican	70/10/5/5%
Tailpiece	10/10/5%	Tobacco	40/10/5%	Vedette	70/10/10%
Taint	12 1/2%	Toddy	40/10/5/5%	Vegetable	70/10/10/5%
Talbot	15%	Tomahawk	40/10/10%	Vellum	75%
Tallow	15/2 1/2%	Tongue	40/10/10/5%	Veneer	75/5%
Tally	15/5%	Tonsure	45%	Venetian	75/5/5%
Talma	15/5/2 1/2%	Topaz	45/5%	Venison	75/10%
Talmud	15/10%	Topmast	45/5/5%	Venus	75/10/5%
Talon	15/10/5%	Torch	45/10%	Veranda	75/10/5/5%
Tamable	15/10/10%	Tornado	45/10/5%	Verbena	75/10/10%
Tamarack	20%	Torpedo	45/10/5/5%	Verdigris	75/10/10/5%
Tannic	20/5%	Tortoise	45/10/10%	Vermilion	80%
Tansy	20/5/5%	Totem	45/10/10/5%	Vermin	80/5%
Tantalic	20/10%	Tower	50%	Verona	80/5/5%
Taper	20/10/5%	Traitor	50/5%	Verse	80/10%
Tapering	20/10/10%	Transom	50/5/5%	Vertebra	80/10/5%
Tapestry	25%	Treacle	†50/10%	Vertigo	80/10/5/5%
Target	25/5%	Tribune	50/10/5%	Vesper	80/10/10%
Tartar	25/5/5%	Trinket	50/10/5/5%	Vestal	80/10/10/5%
Tattoo	25/10%	Tripod	50/10/10%	Veteran	85%
Tavern	25/10/5%	Trombone	50/10/10/5%	Viaduct	85/5%
Teak	25/10/5/5%	Tropical	55%	Viand	85/5/5%
Team	25/10/10%	Trout	55/5%	Vicar	85/10%
Teapot	25/10/10/5%	Truant	55/5/5%	Viceroy	85/10/5%
Tempest	30%	Trumpet	55/10%	Vigil	85/10/5/5%
Tench	30/5%	Tuckahoe	55/10/5%	Viking	85/10/10%
Tendril	30/5/5%	Tulip	55/10/5/5%	Villain	85/10/10/5%
Tenet	30/10%				

*33 1/3/10% — 40% †50/10 — 55%

DAYS OF THE MONTH

*See note below.

Viola	First	Virile	Twelfth	Visitor	Twenty-second
Violence	Second	Virtue	Thirteenth	Visual	Twenty-third
Violet	Third	Virus	Fourteenth	Vitalism	Twenty-fourth
Violin	Fourth	Visage	Fifteenth	Vitals	Twenty-fifth
Viper	Fifth	Viscacha	Sixteenth	Vitellus	Twenty-sixth
Viperine	Sixth	Viscera	Seventeenth	Vitreous	Twenty-seventh
Virago	Seventh	Viscount	Eighteenth	Vitrina	Twenty-eighth
Vireton	Eighth	Viscum	Nineteenth	Vitriol	Twenty-ninth
Virgin	Ninth	Vishnu	Twentieth	Vitrite	Thirtieth
Virgule	Tenth	Vision	Twenty-first	Vivace	Thirty-first
Viridite	Eleventh				

*To denote the months add the following prefixes to the above words, which now designate the days of the month only—see examples.

January	Ba	April	Fa	July	Ja	October	Ma
February	Ca	May	Ga	August	Ka	November	Pa
March	Da	June	Ha	September	La	December	Ra

EXAMPLES

"Baviola"=January 1st. "Havirus"=June 14th. "Ravivace"=December 31st

Vivandiere	About the first of the month
Vivid	About the middle of the month
Vivisect	About the last of the month
Vixen	From the first to the tenth
Vizier	From the tenth to the twentieth
Vocable	From the twentieth to the thirtieth

YEARS

Vocableme	1900	Vocabrade	1907	Vocadist	1914
Vocabler	1901	Vocabrise	1908	Vocadome	1915
Vocablide	1902	Vocabrole	1909	Vocadort	1916
Vocablist	1903	Vocabrume	1910	Vocadum	1917
Vocabule	1904	Vocade	1911	Vocadurn	1918
Vocabulary	1905	Vocadele	1912	Vocaduse	1919
Vocabulate	1906	Vocadire	1913	Vocage	1920

EXAMPLE IN THE USE OF OUR PRIVATE TELEGRAPH CODE

Fracas fatimite vivandiere whitewood notal straightly straikase vancouver wagtail pintos stragglore straikame whaler pounds each quaich queach quarry whist each raffle rampart voltaire rolls sister.

Ship by freight Canadian Northern Railway Lake and Rail about the first of the month 1500 feet "Guttaperch" brand Underwriters' Mill Fire Hose Cotton Rubber Lined 2½-inch Expansion Ring Couplings attached thread on couplings as used by the Corporation of Vancouver. 22 feet "Maltese Cross" brand Smooth Bore Suction Hose 4-inch internal diameter shank couplings attached thread on couplings Standard Iron Pipe thread. 500 pounds each 1/16-inch and 1/8-inch Redstone and 3/32-inch Bluestone Sheet Packing 1000 pounds each 1/16-inch plain and 1/8-inch cloth both sides Sheet Rubber Packing. Two rolls 1/8-inch Corrugated Rubber Matting.

NUMERALS

To be used for inches, feet, pounds, dollars, cents, etc., as occasion may require.

Vocageon	1/12	Walleye	31	Waterpot	86	Wheatbird	575
Vocagelm	2/12	Wallop	32	Waterrat	87	Whelp	600
Vocagest	3/12	Walnut	33	Watersoak	88	Whelm	625
Vocaget	4/12	Walrus	34	Wattle	89	Whetstone	650
Vocagile	5/12	Waltz	35	Wave	90	Whiffle	675
Vocagise	6/12	Wamble	36	Wavelet	91	Whig	700
Vocagone	7/12	Wampum	37	Wax	92	Whimper	725
Vocago	8/12	Wand	38	Waxbill	93	Whimsey	750
Vocagomen	9/12	Wander	39	Waxwing	94	Whinny	775
Vocagomy	10/12	Wanderoo	40	Waxwork	95	Whinock	800
Vocagum	11/12	Wang	41	Wayfare	96	Whipper	825
Vocal	1/64	Wangan	42	Waylay	97	Whipsaw	850
Vocalist	1/32	Wantom	43	Wayside	98	Whirlpool	875
Vocative	1/16	Wapatoo	44	Weakling	99	Whirlwind	900
Vocule	3/32	Wapiti	45	Wealth	100	Whirtle	925
Vodka	1/8	War	46	Weapon	105	Whiskey	950
Vogue	5/32	Warble	47	Weasel	110	Whisper	975
Voice	3/16	Warburg	48	Weather	115	Whist	1000
Voiceless	1/4	Ward	49	Weaver	120	Whistle	1100
Voiture	5/16	Warden	50	Webber	125	Whitecap	1200
Volador		Wardrobe	51	Webfoot	130	Whitefish	1300
Volatile	1/2	Ware	52	Wedding	135	Whitehead	1400
Volcano	5/8	Warfare	53	Wedge	140	Whitewood	1500
Vole	3/4	Warish	54	Wedgwood	145	Whitsun	1600
Volley		Warlike	55	Wedlock	150	Whortle	1700
Volta	1	Warmly	56	Weeder	155	Wicker	1800
Voltaire	2	Warmth	57	Weep	160	Widgeon	1900
Voltigeur	3	Warp	58	Weeping	165	Widow	2000
Voluta	4	Warpage	59	Weevil	170	Wigwam	2100
Volvox	5	Warpath	60	Weftage	175	Wildcat	2200
Vomica	6	Warping	61	Weird	180	Wildwood	2300
Voodoo	7	Warrant	62	Welcome	185	Willet	2400
Vortex	8	Warrior	63	Weldon	190	Willow	2500
Votary	9	Warsaw	64	Welfare	195	Wilton	2600
Votist	10	Wart	65	Welkin	200	Wimple	2700
Vowel	11	Wartless	66	Wellborn	210	Windage	2800
Voyageur	12	Warwick	67	Wellbred	220	Windgall	2900
Vulgar	13	Washpot	68	Welldread	230	Windermere	3000
Vulgate	14	Wasp	69	Welsh	240	Windmill	3500
Vulpes	15	Wassail	70	Welter	250	Window	4000
Vulture	16	Wastage	71	Wench	260	Windward	4500
Waddle	17	Waster	72	Wenona	270	Wineglass	5000
Wadmal	18	Wastrel	73	Werewolf	280	Winnow	6000
Wagati	19	Watchdog	74	Werner	290	Wishbone	7000
Waggish	20	Watches	75	Wesleyan	300	Witchcraft	8000
Wagner	21	Waterage	76	Westing	325	Witchelm	9000
Wagtail	22	Watercan	77	Westward	350	Withamite	10000
Waif	23	Waterdog	78	Wetness	375	Witless	15000
Wainscot	24	Waterfall	79	Whack	400	Witworm	20000
Wake	25	Waterfox	80	Whale	425	Woden	25000
Wakeful	26	Waterhen	81	Whalebone	450	Wolf	30000
Waldgrave	27	Waterhog	82	Whaleman	475	Wolverine	50000
Walk	28	Waterman	83	Whaler	500	Wombat	75000
Wallaby	29	Watermelon	84	Whatnot	525	Woodchuck	100000
Wallet	30	Watermill	85	Wheat	550		

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